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ENGLISH BOTANY;

OR

COLOURED FIGURES

OF

BRITISH PLANTS,

WITH THEIR

ESSENTIAL CHARACTERS, SYNONYMS, AND PLACES OF GROWTH.

TO WHICH WILL BE ADDED

OCCASIONAL REMARKS

BY

JAMES EDWARD SMITH, M.D. F.R.S.

MEMBER OF THE ROYAL ACADEMIES OF TURIN, UPSAL, STOCKHOLM, LISBON, ETC. ETC.

PRESIDENT OF THE LINNÆAN SOCIETY.

572 32

THE FIGURES BY

JAMES SOWERBY, F.L.S.

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—" VIRESQUE ACQUIRIT EUNDO."

Virg.

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PREFACE

TO

THE FOURTH VOLUME

OF

ENGLISH BOTANY.

WHEN Mr. Sowerby undertook to illustrate the Plants of Great Britain by figures, he thought it advisable for those figures to be accompanied by some account of the plants, and requested my assistance for that purpose. I the more readily acceded to his proposal, from having long thought the botanical language of this country required to be improved and fixed, and being ever willing to lend my assistance towards so desirable an end. I have therefore to answer for every word in this publication, except the letter-press to plates 16, 17 and 18, which happened to be communicated by another friend of the editor.

But neither was Mr. Sowerby nor myself at first aware of the importance to which this little work might attain, nor of the utility it might be of as a vehicle for botanical criticism upon British plants. Nor did I in the early part aim at any thing, except, in addition to the essential characters and synonyms, to say something which might allure the careless observer, and stimulate the curiosity of the inexperienced to inquire further into the mysteries and charms of science than such a publication could undertake to conduct them. Descriptions were therefore for

for the most part omitted, or but slightly sketched, and dissections of the flower were scarcely ever introduced into the plates. Some of my learned friends were pleased to compliment me by thinking the work beneath my notice, and others advised that I should put my name to it by way of giving it consequence. As to the first observation, I have always thought size or mode of publication had very little to do with the value or dignity of a book; for who would not rather have been the author of the little *Fundamenta Botanica* than of all the 26 pompous volumes of Hill's *Vegetable System?* And with respect to the latter remark, I chose rather that the work should make its way by any merit or utility it might be found to possess, than be indebted to other performances for a name. Not that any pains were taken to conceal the real author, nor was I aware that the truth, after a little time, was not generally known, till a criticism appeared in the Gentleman's Magazine for February 1793; in answer to which, in that for April following, it became necessary to own the work as entirely mine; and the title page will in future obviate all doubt on the subject, though the style of the descriptions will not be changed. The approbation the book has received will make me anxious to support its credit with my own as it proceeds, and the *English Botany* will serve to illustrate the systematic *Flora Britannica*, which has long been projected, and is now preparing.

J. E. SMITH.

Hammersmith,
November 1, 1795.

Menyanthes nymphæoides.

MENYANTHES nymphoides.

Fringed Buckbean.

PENTANDRIA Monogynia.

GEN. CHAR. *Corolla* hairy. *Stigma* cloven. *Capſ.* of 1 cell.

SPEC. CHAR. Leaves heart-ſhaped, entire, waved. Corolla ciliated.

SYN. Menyanthes nymphoides. *Linn. Sp. Pl.* 207. *Hudſ. Fl. An.* 85. *With. Bot. Arr.* 206. *Relh. Cant.* 82. *Sibth. Oxon.* 73.

Nymphæa lutea minor flore fimbriato. *Raii Syn.* 368.

Limnanthemum peltatum. *Gmelin in Act. Petrop. anno* 1769, *v.* 14. *p.* 527. *t.* 17. *f.* 2. è MSS. Linn.

Waldſchmidia nymphoides. *Wiggers Flo. Holſat.* 20.

THIS beautiful aquatic is found occaſionally in the Thames, chiefly in little receſſes of its ſhores out of the great ſtream; Lord Lewiſham communicated it from near Walton bridge. It is much more frequent in the ſtill canals of Holland than with us.

Root perennial, long and ſtringy, as are alſo the ſtems. They produce a few pair of oppoſite floating leaves, growing on foot-ſtalks various in length according to the depth of the water, their margin ſcarcely toothed, but rather waved. Theſe leaves, like thoſe of the Nymphææ, perſpire quicker than almoſt any others we have obſerved, ſo as to become dry in a few hours, though at firſt ſo ſucculent. The flowers grow from the axillæ about Auguſt, in a kind of ſeſſile umbel, 4 or 5 together, on long foot-ſtalks, and when expanded in the ſun have a brilliant appearance. Their corolla is ciliated, but not hairy upon the ſurface like M. trifoliata: hence ſome have thought it did not anſwer to the generic character, and Wiggers has aſſerted that it belongs even to a different natural order from the laſt-mentioned plant, but without telling us why. As Mr. de Juſſieu, whoſe authority is very great upon ſuch a point, has not ſeparated them, and as M. indica ſeems to connect the two, we think they may ſafely remain as they are.

Myriophyllum verticillatum.

MYRIOPHYLLUM verticillatum.

Verticillate Water-Milfoil.

MONOECIA Polyandria.

GEN. CHAR. Male. *Cal.* 4-leaved. *Pet.* 4 *Stam.* 8. Female. *Cal.* 4-leaved. *Pet.* 4. *Piſt.* 4. *Style* none. *Seeds* 4, naked.

SPEC. CHAR. All the flowers in axillary whorls.

SYN. Myriophyllum verticillatum. *Linn. Sp. Pl.* 1410. *Hudſ. Fl. An.* 420. *With. Bot. Arr.* 1078. *Relh. Cant.* 361. *Sibth. Oxon.* 132.

Pentapterophyllon aquaticum floſculis ad foliorum nodos. *Raii Syn.* 316.

WE have given the moſt common Water Milfoil in *tab.* 83 of this work. That now before us is much more rare. It has been ſent from ſeveral of the eaſtern parts of the kingdom. Mr. Crowe diſcovered it in his ponds at Lakenham, near Norwich, laſt ſummer.

The root and lower part of the ſtem much reſemble thoſe of M. ſpicatum, as do ſuch of the leaves as are under water, except that all the leaves grow in fives. The upper part of the ſtem is however materially different from that ſpecies, being raiſed ſeveral inches above the ſurface, and clothed to the top with leaves, ſhorter and leſs finely cut indeed than thoſe which are under water, but verticillated in the ſame manner. From their axillæ the flowers appear in July, of a pale green, ſometimes hermaphrodite, but generally female in the lower whorls, male in the upper. The petals are oval, concave, green, ſoon falling off, and poſſibly the female flowers may often want them, though they were evident in our ſpecimen. The 4 ſtigmata are ſhort, ſpreading, and finely tufted.

643.

Arenaria tenuifolia.

ARENARIA tenuifolia.

Fine-leaved Sandwort.

DECANDRIA Trigynia.

GEN. CHAR. *Cal.* 5-leaved, ſpreading. *Petals* 5, undivided. *Capſ.* of one cell, with many ſeeds.

SPEC. CHAR. Leaves awl-ſhaped. Stem panicled. Capſules erect. Petals lanceolate, ſhorter than the calyx.

SYN. Arenaria tenuifolia. *Linn. Sp. Pl.* 607. *Hudſ. Fl. An.* 192. *With. Bot. Arr.* 461. *Relh. Cant.* 172. *Sibth. Oxon.* 142.

Alſine tenuifolia. *Raii Syn.* 350.

SENT by the Rev. Mr. Hemſted from the neighbourhood of Newmarket, where it grows in dry ſandy fields, on walls, &c. contenting itſelf with very ſpare nouriſhment, though not ſucculent ſo as to reſiſt much drought. Accordingly it flowers early in ſummer, and is ſoon entirely dried up. Its ſeeds produce another crop the following ſpring.

The ſmall annual root bears ſeveral branching ſtems, varying much in ſize according to the degree of moiſture they are ſupplied with, and clothed with oppoſite awl-ſhaped leaves, joined at their baſe, ſtriated at their back, or rather 3-ribbed, ſmooth. Flower-ſtalks ſolitary, ſingle-flowered, capillary, erect, longer than the leaves, and ſo numerous as to make the ſtem look like a panicle. Flowers very ſmall and inconſpicuous. Calyx-leaves lanceolate, very acute, 3-ribbed, with a white membranous margin, and twice as long as the little narrow white petals. The flowers rarely expand but in bright ſun-ſhine, and are ſoon paſt. Stamina certainly ten, very ſhort. Germen round. Capſule cylindrical, as long as the calyx. It is a little plant of inſignificant appearance, whoſe uſe either to mankind or the brute creation is hitherto unknown.

1033.

Trifolium maritimum.

TRIFOLIUM maritimum.

Teaſel-headed Trefoil.

DIADELPHIA Decandria.

GEN. CHAR. *Flowers* more or leſs capitate. *Pod* ſcarcely longer than the calyx, never burſting, but falling off entire.

SPEC. CHAR. Spikes hairy, globoſe. Stipulæ lanceolate, erect. Calyx-teeth ſpreading, and dilated after flowering. Leaflets obovato-lanceolate, the lowermoſt obcordate; upper leaves oppoſite.

SYN. Trifolium maritimum. *Hudſ. Fl. An. ed.* 1. 284.

T. ſtellatum. *Hudſ. Fl. An. ed.* 2. 326. *With. Bot. Arr.* 799.

T. ſtellatum glabrum. *Raii Syn.* 329. *Ger. em.* 1208. *Pluk. Phyt. t.* 113. *f.* 4.

THE above are the only certain ſynonyms we can find for this Trefoil. Mr. Hudſon rightly publiſhed it as new in his firſt edition, and ſent it to Linnæus, who has preſerved it in his Herbarium, marked Hudſon's T. *maritimum*, without referring it to any of his own, yet he neglected to inſert it in his ſubſequent works. We are at a loſs to gueſs why Mr. Hudſon afterwards took this plant for T. *ſtellatum*, a very different ſpecies, as is evident from the figures erroneouſly quoted (except Plukenet's) in the *Bot. Arr.* which are the real *ſtellatum*.

T. *maritimum* grows in ſalt-marſhes, and meadows near the ſea in various parts of England, from Norfolk all along the ſouth and weſt coaſt to Wales. Mr. Wigg has ſent it from Yarmouth, and Sir Thomas Cullum from Weymouth. The former aſſures us the root is certainly annual, as Ray marks it. The ſtems are ſpreading and branched, erect only when many grow together, a little hairy, very various in height. Leaves alternate, except the uppermoſt pair; leaflets obovate, narrow, minutely notched at the tip, of a darkiſh green. Stipulæ very narrow. Spikes ſhort, almoſt globoſe. Calyx-teeth ſharp, a little unequal in the flower, and more ſo in the fruit, in which laſt ſtate they become broad and ſpreading. Petals nearly equal in length, paliſh red. The original obſerver of this ſpecies ſeems to have been Dr. Johnſon, the editor, if not always the emendator, of Gerarde's Herbal.

TRITICUM loliaceum.

Spiked Sea Wheat-graſs.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of two valves, ſolitary, alternate, upon a zigzag *rachis*, and containing ſeveral obtuſe, but pointed, florets.

SPEC. CHAR. Calyx many-flowered. Spike ſimple, compreſſed; ſpiculæ ovate, all leaning one way.

SYN. Triticum unilaterale. *Ait. Hort. Kew. v.* 1. 122. but not of Linnæus.

T. maritimum. *With. Bot. Arr.* 130.

Poa loliacea. *Hudſ. Fl. An.* 43. *With. Bot. Arr.* 91. *Relh. Cant.* 37.

Gramen pumilum Loliaceo ſimile. *Raii Syn.* 395.

Gr. loliaceum exile durius. *Smith Rel. Rudb.* 13.

GATHERED by the Rev. Mr. Bryant, on the northern coaſt of Norfolk. It occurs on the ſandy beach in many parts of England, according to Ray and Hudſon, flowering about Midſummer.

The root is annual, conſiſting of long downy fibres as in moſt graſſes that grow in pure ſand. Several ſhort rigid curved ſtems ariſe from it, clothed with ſheathing leaves, which are involute when dry. A ſhort notched beardleſs ſtipula crowns the inſide of their ſheaths. The general ſpike is terminal, erect, compoſed of from 8 or 9 to 12 or 15 erect flowers or ſpiculæ, placed alternately on each edge of the common *rachis* or ſtalk, but all directed to one of its flat ſides, which is by that means completely hidden, while the other is viſible behind. The calyx-huſks are lanceolate, equal, reaching to the top of the loweſt florets. The partial rachis is zigzag, and exactly like the general one; an argument for the propriety of conſidering the latter as a part of the fructification, and conſequently making the plant a *Triticum*, not a *Poa*. The florets are numerous; their outer valves very blunt, with a ſharp point, the inner lanceolate and acute. Nectary a minute concave ſcale. Stamina and piſtilla ſhort.

Linnæus has wonderfully erred in confounding this with his T. maritimum, which is a large branched graſs with linear ſpiculæ and acuminated florets, well deſcribed in *Sp. Pl.* and which has hitherto been found only in the South of France. T. unilaterale is no leſs diſtinct, and is well figured by Moriſon, *vol.* 3. *ſec.* 8. *t.* 2. *f.* 3.

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PHALARIS arenaria.

Sea Canary-graſs.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of two carinated equal valves, longer than the corolla, ſingle-flowered.

SPEC. CHAR. Spike ovato-lanceolate. Glumes ciliated. Stems ſeveral.

SYN. Phalaris arenaria. *Hudſ. Fl. An.* 23.

Ph. phleoides β. *Ait. Hort. Kew. v.* 1. 86.

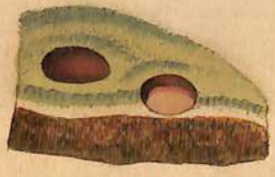
Phleum arenarium. *Linn. Sp. Pl.* 88. *With. Bot. Arr.* 62.

Gramen typhinum maritimum minus. *Raii Syn.* 398.

FOUND every where about ſandy ſea-ſhores and the neighbouring fields; it has even been obſerved upon Swaffham heath by James Crowe, Eſq. and on that of Newmarket by the Rev. Mr. Hemſted, who favoured us with this ſpecimen. On the ſea-coaſt the plant is ſeldom ſo luxuriant. It is an annual, and flowers in June.

The root is fibrous, and downy, like the graſs laſt deſcribed. Stems ſeveral, dividing from the crown of the root or a little higher as in wheat, ſometimes bent at the joints, clothed with leaves, whoſe edge is a little rough, their ſheaths long, inflated, ſtriated and ſmooth. The flower-ſtalk commonly very little exceeds the uppermoſt leaf, and is terminated by an upright rigid ſpike, ſwelling in the middle, conſiſting of a great number of erect thick-ſet flowers. The calyx is green, with white keel ribs and margin; the valves lanceolate, gradually tapering to a ſharp point, and by no means lopped or truncated as in the genus *Phleum*; their keel, and ſometimes their margin, is ciliated with white hairs. Corolla of two ſhort, crenated, ſtriated petals.

The ciliated valves diſtinguiſh this plant from Phalaris phleoides of Linnæus, certainly of the ſame genus, though its different habit and appearance (which we hope one day to have an opportunity of exhibiting) will not allow us to agree with the *Hortus Kewenſis* in making them the ſame ſpecies. Not one of our Engliſh writers has well underſtood theſe two graſſes, nor Phleum paniculatum of Hudſon, which is very diſtinct from both.



LICHEN coccineus.

Scarlet Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, ſcattered warts.

Female, ſmooth ſhields or tubercles, in which the ſeeds are imbedded.

SPEC. CHAR. Cruſtaceous and mealy, of a greeniſh ſulphur colour. Tubercles of a vivid red, immerſed in the cruſt.

SYN. Lichen coccineus. *Dickſ. Crypt. Faſc.* 1. 8. *t.* 2. *f.* 1. *With. Bot. Arr. v.* 3. 167.

DISCOVERED by Dr. Smith upon the rocks called Saliſbury Craigs commanding the town of Edinburgh, by Mr. Dickſon upon Stonehenge in Wiltſhire, and Mr. T. F. Forſter jun. near Tunbridge. It is indeed a very rare ſpecies, but may alſo probably have been overlooked for a young or imperfect ſpecimen of L. ventoſus. Yet, as Mr. Dickſon obſerves, they are very diſtinct ſpecies; the latter having a hard, firm, warty cruſt, of a yellowiſh colour at firſt, but then turning white, and never at any time mealy, but ſmooth and rather poliſhed. Neither are its tubercles ſo uniform as thoſe of L. coccineus, nor is their colour ſo vivid. Both are very elegant productions.

1451.

LYCOPODIUM clavatum.

Common Club-moſs.

CRYPTOGAMIA Miſcellaneæ.

GEN. CHAR. *Capſules* axillary, ſolitary, naked, kidney-ſhaped, of two elaſtic valves and one cell. *Seeds* numerous, minute.

SPEC. CHAR. Leaves ſcattered, terminating in threads. Spikes cylindrical, on footſtalks, about two together.

SYN. Lycopodium clavatum. *Linn. Sp. Pl.* 1564. *Hudſ. Fl. An.* 462. *With. Bot. Arr. v.* 3. 68. *Relh. Cant.* 393. *Sibth. Oxon.* 265.

Lycopodium. *Raii Syn.* 107.

L. vulgare piloſum, amfragoſum et repens. *Dill. Muſc.* 441. *t.* 58. *f.* 1.

COMMON on mountainous heaths, eſpecially in the North. The branched ſtem creeps cloſe to the ground to a great extent, throwing out a ſtrong branched white perennial root at the diſtance of every two or three inches. The leaves are crowded thick together, entirely covering the ſtem, all curved upwards from the ground, lanceolate, finely ſerrated, tipped with a white filament. Flowering branches erect, ſolitary, leafy at the bottom, then bearing a few ſcattered, entire, pale-green ſcales only, and terminating in one, two, or three cylindrical ſpikes, thickly clothed with the ſame kind of ſcales, but broader, in the axilla of each of which is a ſmall yelloviſh kidney-ſhaped capſule, called by Linnæus *anthera*, full of very minute ſeeds. The fructification is produced about the middle of ſummer. The whole plant is of a harſh, dry, and laſting nature, but its colour ſoon fades. The ſeeds are highly inflammable, and explode like gunpowder, as all authors mention.

This genus has been reckoned among the moſſes, till Dr. Hedwig obſerved that tribe more accurately. We adopt for the preſent only Profeſſor Schreber's order of *Miſcellaneæ*, becauſe we really do not know what elſe to do; but the term is unſcientific, and the order too vague. Ophioglоſſum and Oſmunda have much analogy in fructification with Lycopodium.

1161.

HYPOCHÆRIS maculata.

Spotted Hawkweed, or Cat's-ear.

SYNGENESIA Polygamia-æqualis.

GEN. CHAR. *Recept.* chaffy. *Cal.* ſomewhat imbricated. *Seed-down* feathery.

SPEC. CHAR. Stem naked, ſolitary. Leaves ovato-oblong, undivided, dentated.

SYN. Hypochæris maculata. *Linn. Sp. Pl.* 1140. *Hudſ. Fl. An.* 346. *With. Bot. Arr.* 858. *Relh. Cant.* 300.

Hieracium primum latifolium. *Raii Syn.* 167. *Ger. em.* 301.

ONE of our rare chalk-country plants, diſcovered hitherto only about Newmarket heath, Burnack heath Northamptonſhire, and in the ſequeſtered country about Malham Cove in Yorkſhire. Mr. Hemſted gathered our preſent ſpecimen near the Devil's ditch, where Ray mentions its growing. It is perennial, flowering in July.

The root is thick and long, abounding with milky juice, as does the reſt of the plant. Leaves all radical, except the plant becomes luxuriant from cultivation, oblong, ſomewhat pointed, very irregularly toothed, rough, ſpotted with red or brown. Stalk commonly ſimple and ſingle-flowered, roughiſh, with one or two diſtant lanceolate bracteæ. Outer ſcales of the calyx rough with black prominent briſtles, intermixed with ſcattered white ones. The flower, not much unlike that of Dandelion, cloſes in the afternoon, and "turneth into a downie blowball," as Gerarde ſays, "that is carried away with the winde." The ſeeds, according to Linnæus, are wrinkled. We have not ſeen them in a ripe ſtate.

Armeria
maritima.

STATICE Armeria.

Thrift.

PENTANDRIA Pentagynia.

GEN. CHAR. *Cal.* of one leaf, entire, plaited, filmy. *Petals* five. *Seed* ſingle.

SPEC. CHAR. Stalk ſimple, bearing a round head of flowers. Leaves linear.

SYN. Statice Armeria. *Linn. Sp. Pl.* 394. *Hudſ. Fl. An.* 132. *With. Bot. Arr.* 326. *Relh. Cant.* 129. *Lightf. Scot.* 173.

S. montana minor. *Raii Syn.* 203.

"THE moſt humble and moſt lofty of plants," ſays Mr. Lightfoot; "it grows frequently upon the ſea-ſhores, and upon the ſummits of the higheſt mountains." Neither is it leſs common in England and Wales than in Scotland, in both kinds of ſituations. We have examined it from both, and found no difference between the ſpecimens. Its favourite maritime ſoil is of the muddy kind. The conſtitution of this plant indeed ſeems of a very accommodating nature; for it grows equally well in any garden, even in the ſmoke of London, and is much uſed for edgings. From its readineſs to thrive in any ſituation, the Engliſh name has probably been given. It flowers about July and Auguſt.

Root perennial, woody, bearing many thick tufts of lax, linear, channelled, ſmooth, entire leaves. Stalks varying much in height, round, naked, each terminated by a globular head of ſeveral flowers, encompaſſed with a many-leaved involucrum, whoſe baſe is attached to a ſingular cylindrical membranous ſheath, about an inch long, which inveſts the top of the ſtalk, its lower end being looſe and lacerated, ſo that it ſeems to have been torn off from the root, and carried up with the young growing ſtalk. Calyx ſmall, erect. Petals roſe-coloured. Crown of the ſeed fringed.

Helosciadium inundatum

SISON inundatum.

Water Honewort.

PENTANDRIA Digynia.

GEN. CHAR. *Fruit* oval, ſtriated. *Involucra* both general and partial, each of about four leaves.

SPEC. CHAR. Creeping. General umbel of only two rays, and wanting a general involucrum.

SYN. Siſon inundatum. *Linn. Sp. Pl.* 363. *Hudſ. Fl. An.* 120. *With. Bot. Arr.* 295. *Relh. Cant.* 117. *Sibth. Oxon.* 98.

Sium puſillum, foliis variis. *Raii Syn.* 212.

THIS we believe is not a very unfrequent inhabitant of wet places that are overflowed in winter, as well as of ditches and pools among other aquatics. Moſt authors, except Ray, make it annual. Others, as Linnæus, do not pretend to decide upon its duration, in which claſs we muſt humbly rank ourſelves, only obſerving that, from its flowering ſo early as May, it is probably at leaſt biennial.

The round, partly floating, ſtem throws out a few long ſimple fibres from the bottom, and is furniſhed with alternate pinnated leaves, whoſe membranous ſheathing ſtipulæ embrace the ſtem. Such leaflets as are above the water are commonly wedge-ſhaped, and three-cleft, ſometimes elliptical and undivided; thoſe that are under water, eſpecially at any depth, are finely divided into capillary ſegments, as in Ranunculus aquatilis. See a good remark on this ſubject in Ray's Synopſis, 212. The umbels are placed oppoſite to each leaf, juſt within the ſtipula, on longiſh footſtalks, and conſiſt of only two partial umbels, without any general involucrum. Each partial umbel has about five white, ſlightly radiant, flowers, with oval, entire, ſpreading petals. Fruit compreſſed and ſtriated.

We cannot help thinking this plant belongs rather to Hydrocotyle than to any other genus.

Petroselinum segetum.

SISON segetum.

Corn Honewort.

PENTANDRIA Digynia.

GEN. CHAR. *Fruit* oval, ſtriated. *Involucra* both general and partial, each of about four leaves.

SPEC. CHAR. Leaves pinnated; leaflets roundiſh. Umbels drooping.

SYN. Siſon ſegetum. *Linn. Sp. Pl.* 362. *Hudſ. Fl. An.* 120. *With. Bot. Arr.* 294. *Relh. Cant.* 117. *Sibth. Oxon.* 97.

Sium arvenſe ſive ſegetum. *Raii Syn.* 211.

Selinum Sii foliis. *Ger. em.* 1018.

COMMUNICATED from fields near Kelmarſh, in Northamptonſhire, by William Hanbury, Eſq. It has been obſerved in ſeveral parts of England in a chalk or clay ſoil, but not very frequently. Meſſrs. Forſters find it at Walthamſtow. It flowers in July, and is annual in general, though often biennial, as we find remarked by that accurate obſerver Mr. John Goodyer, in Gerarde's Herbal. His whole account of this herb, with the origin of its name *Honewort* (from its curing a ſwelling in the cheek, called a Hone), with all the hiſtory of "Miſtris Urſula Leigh," and "Miſtris Charitie Leigh," is a model of accurate inquiry and preciſe information.

Root ſmall, but ſtrong. Stems ſeveral, ſpreading in every direction, ſlender and ruſh-like, but branched, and furniſhed with ſeveral alternate pinnated leaves. The radical leaves are the largeſt, conſiſting of from ſeven to fifteen neat little roundiſh leaflets, ſharply ſerrated, and ſcarcely lobed. The general umbels are of very few and unequal rays; the partial ones are drooping, and, as Goodyer ſays, "uneven or unorderly," their flower-ſtalks being very various in length. Flowers very ſmall. Petals regular, incurved. Antheræ purple. Fruit ſtriated, pungent and aromatic, as is the whole plant in ſome degree.

Peucedanum
palustre.

SELINUM paluſtre.

Marſh Milky Parſley.

PENTANDRIA Digynia.

GEN. CHAR. *Fruit* oval-oblong, compreſſed, ſtriated down the middle. *Involucra* general and partial, reflexed. *Petals* heart-ſhaped, uniform.

SPEC. CHAR. Milky. Root generally ſingle. Stem ſolitary. Styles much divaricated after flowering. Petals involute.

SYN. Selinum paluſtre. *Linn. Sp. Pl.* 350. *Huds. Fl. An.* 115. *With. Bot. Arr.* 281.

GATHERED by Dr. Smith July 28, 1794, in the ditches of a very wet reedy meadow between Norwich and Heigham, where it was firſt obſerved by Mr. Pitchford. Ray ſeems not to have known this plant to be a native of England.

Root ſomewhat ſpindle-ſhaped, with ſeveral fibres from the top. Stem ſolitary, erect, four or five feet high, hollow, deeply furrowed, not hairy, bright purple at the baſe, bearing five or ſix remote alternate leaves; the lowermoſt on long furrowed footſtalks, with ſheathing reddiſh ſtipulæ, and all twice or thrice oppoſitely pinnated, and cut into narrow, pointed, oppoſite or alternate, ſmooth ſegments, of which the terminal ones are longeſt. The upper part of the ſtem is alternately branched, in a corymboſe manner, bearing many large, horizontal, compound umbels of white flowers, on pale purpliſh footſtalks. Involucra of ſeveral ſhortiſh, dependent, lanceolate, pointed leaves, with membranous edges. Petals uniform, inflexed. Fruit elliptical, ſharp edged.

The whole plant abounds with a white, bitter, fœtid juice, of the conſiſtence of cream, which ſoon dries to a browniſh reſin. The Ruſſians are ſaid to uſe the root inſtead of ginger.

Dr. Stokes juſtly remarks (*Bot. Arr.*) that Jacquin's *Selinum ſylveſtre*, figured in *Fl. Auſtriaca*, is this plant, and not the *ſylveſtre* of Linnæus. This we have verified by comparing original ſpecimens. In both however the ſtem is furrowed. The difference of one having a ſolitary ſtem, the other a great number, ſeems more certain than the difference of the roots.

Smyrnium Olusatrum.

SMYRNIUM Olusatrum.

Alexanders.

PENTANDRIA Digynia.

GEN. CHAR. *Fruit* oblong, angular. *Petals* pointed, carinated. Many *flowers* abortive. *Involucra* none.

SPEC. CHAR. Stem-leaves in threes, on footſtalks, ſerrated.

SYN. Smyrnium Olusatrum. *Linn. Sp. Pl.* 376. *Hudſ. Fl. An.* 126. *With. Bot. Arr.* 310. *Relh. Cant.* 123. *Sibth. Oxon* 101.

Smyrnium. *Raii Syn.* 208.

THIS is rather a maritime plant, and is found near the coaſt in many places; but whether from having been formerly cultivated as a pot-herb, or the ſeeds diſperſed by any other means, it now occurs about many inland towns, as Nottingham, York, Bury, Newmarket, and about Mackerell's tower Norwich. The root is biennial, and the flowers appear in May. By the middle of July the ſtalks are dried up, but remain laden with large black ſeeds.

The ſtem is ſtrong, deeply furrowed. Leaves large, twice or thrice ternate, cut and ſerrated. Flowers ſmall, numerous and irregular. The whole herb is of a pale bright green, ſmooth, ſucculent, in flavour ſomething like celery, but more ſtrong and bitter. It is now out of uſe, though formerly eaten in various parts of Europe, either as a ſallad or pot-herb, whence the name *Olus atrum*. Ray thinks it was called Alexanders becauſe in Italy and Germany it had long been denominated *herba Alexandrina*, having been ſuppoſed to be brought from Alexandria.

8.91

Cakile maritima.

BUNIAS Cakile.

Sea Rocket.

TETRADYNAMIA Siliculoſa.

GEN. CHAR. *Pouch* deciduous, ſquare, the angles unequal and ſharp.

SPEC. CHAR. Pouch ovate, ſmooth, two-edged. Leaves ſucculent.

SYN. Bunias Cakile. *Linn. Sp. Pl.* 936. *Huds. Fl. An.* 298. *With. Bot. Arr.* 716.

Cakile quibuſdam, aliis Eruca marina et Raphanus marinus. *Raii Syn.* 307.

A COMMON annual on ſandy ſea-ſhores, flowering from June to September, and making a very ornamental appearance.

From an inconſiderable root riſes a very buſhy branched ſtem, ſpreading in every direction, with branches ſo zigzag and twiſted that there is ſcarcely a ſtraight line about them. Leaves alternate, thick and ſucculent, rather glaucous, ſmooth, more or leſs deeply pinnatifid and toothed, their ſegments all obtuſe, each tipped with a minute, ſeemingly glandular, point. Flowers in denſe terminal corymbi, which afterwards grow out into ſpikes. Their habit is ſomething like thoſe of a Cheiranthus, but the ſingular pod characterizes the genus as well as the ſpecies. Its form is ovato-lanceolate, with four ſharp edges, but compreſſed ſo that two oppoſite edges are much the moſt prominent; their interſtices are ribbed, but not (as in ſome ſpecies) tuberculated. Seed ſingle. The pod or pouch falls off when ripe, leaving a ſingular quadrangular receptacle.

This plant abounds with alkaline ſalt, and has the pungent muſtard flavour of its claſs.

Atriplex
pedunculata.

ATRIPLEX pedunculata.

Pedunculated Sea-Orache.

POLYGAMIA Monoecia.

GEN. CHAR. Hermaphr. *Cal.* 5-leaved. *Cor.* none. *Stam.* 5. *Style* cloven. *Seed* 1, depreſſed. Female, *Cal.* two-leaved. *Cor.* none. *Style* cloven. *Seed* 1, compreſſed.

SPEC. CHAR. Stem herbaceous, with divaricating branches. Leaves lanceolate, obtuſe, undivided. Fruit of the female flowers on footſtalks.

SYN. Atriplex pedunculata. *Linn. Sp. Pl.* 1675. *Huds. Fl. An.* 444. *With. Bot. Arr.* 1146.

A. marina ſemine lato. *Raii Syn.* 153.

β A. maritima noſtras, Ocymi minoris folio. *Ibid.*

NO obſcurity envelops this ſpecies. The pedunculated fruit diſtinguiſhes it at firſt ſight. In a young ſtate it is known from *A. portulacoides* by being herbaceous. It grows in ſalt marſhes near Yarmouth, and was found by Dr. Smith in 1778 on the muddy ſhore of the river Ouſe, juſt below Lynn. We believe it had not been obſerved in England before, ſince the time of Sherard. The ſmall variety β is leſs uncommon.

Root annual, ſmall. Stem zigzag, angular, with many alternate ſpreading branches. Leaves lanceolate, ſomewhat elliptical, undivided and entire. Flowers ſpiked, ſmall; the two kinds ſcarcely diſtinguiſhable till the females in ripening are exalted on long flowerſtalks, and become enlarged, wedge-ſhaped, and compreſſed. The whole herb is glaucous, clothed with a ſcaly mealineſs. It flowers in Auguſt and September.

Whatever may be thought of the greater part of exotic plants placed by Linnæus in his claſs *Polygamia*, the genus of Atriplex, having *a different ſtructure* in the two flowers, ſhows that claſs to be founded in nature. It would be a curious experiment to try whether the compreſſed and depreſſed ſeeds are both equally fertile, and produce the ſame kind of plants as to habit. Similar experiments are worth making on the ſeeds of ſuch Syngeneſious flowers as are polygamous. Practical gardeners and country botaniſts have it in their power to advance ſcience by ſuch inquiries, whoſe reſults would be acceptable to literary ſocieties, or authors occupied in natural hiſtory.

Lycopodium Selago.

LYCOPODIUM Selago.

Fir Club-moſs.

CRYPTOGAMIA Miſcellaneæ.

GEN. CHAR. *Capſules* axillary, ſolitary, naked, kidney-ſhaped, of two elaſtic valves and one cell. *Seeds* numerous, minute.

SPEC. CHAR. Leaves ſcattered, in eight ſeries. Stem forked, erect, branches equal at the top. Flowers ſcattered.

SYN. Lycopodium Selago. *Linn. Sp. Pl.* 1565. *Huds. Fl. An.* 463. *With. Bot. Arr. v.* 3. 70. *Sibth. Oxon.* 265.

Selago foliis et facie Abietis. *Raii Syn.* 106.

S. vulgaris, Abietis rubræ facie. *Dill. Muſc.* 435. *t.* 56. *f.* 1.

THIS kind of Club-moſs is by far leſs common than that we have already figured, *t.* 224, except about the clefts of rocks in mountainous woods, and on heaths in Wales and the north of England, where it abounds; and it has even been found on Felthorpe bogs in Norfolk, a ſpot rich in curious plants. It is perennial, and flowers all ſummer long.

Root of many ſtrong fibres, not creeping. Stem erect, three or four inches high, forked, all the branches making a level ſurface at the top,—a proper example of *caulis faſtigiatus*. It is entirely clothed with bright-green, lanceolate, entire, pointed, concave, ſhining, permanent leaves, in the axillæ of which, about the uppermoſt branches, ſtand the capſules (1). Frequently the plant appears to be viviparous, bearing buds of ng leaves, ſome of which we have repreſented (2), inſtead of capſules, an appearance which did not eſcape the obſerving Dillenius.

That the duſt of the capſules of this plant is really the ſeeds is now certain from the experiments of Mr. Fox of Norwich, who has raiſed plants from it. See *Tranſ. of the Linn. Society*, *vol.* ii. 315.

Lycopodium alpinum

LYCOPODIUM alpinum.

Alpine Club-moſs.

CRYPTOGAMIA Miſcellaneæ.

GEN. CHAR. *Capſules* axillary, ſolitary, naked, kidney-ſhaped, of two claſſic valves and one cell. *Seeds* numerous, minute.

SPEC. CHAR. Leaves acute, imbricated in four rows. Shoots erect, cloven. Spikes ſeſſile, cylindrical.

SYN. Lycopodium alpinum. *Linn. Sp. Pl.* 1567. *Hudſ. Fl. An.* 464. *With. Bot. Arr. v.* 3. 70. *Dickſ. Dr. Plants*, 46.

L. Sabinæ facie. *Raii Syn.* 108. *Dill. Muſc.* 445. *t.* 58. *f.* 2.

AN inhabitant of ſeveral high mountains of the north of England, Scotland and Wales, communicated to us by Mr. Robſon of Darlington.

The ſtems are round, leafy, ſtrong and woody, proſtrate, creeping along the ground with roots at intervals like *L. clavatum*. Tufts of erect ſhoots, ſeveral times forked, or rather cloven, ariſe here and there, from one to three inches in height, their branches entirely clothed with four rows of imbricated leaves, which are lanceolate, concave, entire, ſmooth, beardleſs, and but little ſpreading. Some longer branches terminate in one or two ſhort erect ſpikes, compoſed of ſcales ſomewhat membranous, ovate, pointed at each end, each of which is accompanied by a capſule like that of other ſpecies of the ſame genus.

Exacum filiforme

EXACUM filiforme.

Leaſt Gentianella.

TETRANDRIA Monogynia.

GEN. CHAR. *Cal.* in 4 ſegments. *Cor.* ſalver-ſhaped, with an inflated tube. *Capſ.* with 2 furrows, 2 cells, and many ſeeds, burſting at the top. *Stigma* capitate.

SPEC. CHAR. Leaves ſeſſile. Stem filiform, forked. Flowers on long footſtalks.

SYN. Gentiana filiformis. *Linn. Sp. Pl.* 335. *Huſſ. Fl. An.* 103. *With. Bot. Arr.* 263. *Fl. Dan. t.* 324. Centaurium paluſtre luteum minimum noſtras. *Raii Syn.* 286.

THIS very uncommon and curious little flower was ſent us by Dr. Pulteney from Dorſetſhire, being found there, as well as in Cornwall, not very ſparingly, in boggy ſituations. It is an annual, and flowers in July, ripening its minute ſeeds in Auguſt.

Root fibrous, ſmall and whitiſh. Stem from two to four inches high, erect, round, ſlender, more or leſs branched in a forked manner, ſometimes from the very bottom; but the lateral branches have ſeldom ſtrength enough to become again forked, bearing only a pair of leaves about their middle, where the ſubdiviſion would have been. Leaves oppoſite, lanceolate, ſomewhat ſpatulate, entire, ſmall, and few in number, chiefly three or four pair near the root, and one ſmaller pair at each ſubdiviſion of the ſtem. Every part of the herb is ſmooth. Flowers terminal, ſolitary, ſtanding on long flower-ſtalks, which are in fact elongations of the ſtem or branch. Bracteæ none. Calyx ovate, divided half way down into 4 ſharp ſegments, with membranous edges. Tube of the corolla about as long as the calyx, inflated and pellucid; limb yellow, in 4 equal ſpreading concave ſegments, expanding only in bright ſunſhine; orifice naked, into which the 4 little ſhort curved ſtamina are inſerted. Germen elliptical; ſtyle about as long as the germen, ſlightly curved; ſtigma capitate, ſcarcely perceptibly cloven.

That this plant belongs to the genus of *Exacum*, and not to *Gentiana*, there can be no doubt. See Dr. Smith's *Icones pictæ faſc.* 3. *t.* 18, where the characters of *Exacum* and its allies are determined. But that genus was not known when Linnæus deſcribed the plant before us, nor had he ſtudied the natural order to which it belongs.

377.

Gentiana Amarella.

GENTIANA Amarella.

Autumnal Gentian.

PENTANDRIA Digynia.

GEN. CHAR. *Cor.* of one petal. *Capſule* ſuperior, one-celled, two-valved, with two longitudinal receptacles.

SPEC. CHAR. Corolla five cleft, ſalver-ſhaped, bearded in the orifice. Segments of the calyx equal.

SYN. Gentiana Amarella. *Linn. Sp. Pl.* 334. *Hudſ. Fl. An.* 103. *With. Bot. Arr.* 262. *Relh. Cant.* 100. *Sibth. Oxon.* 85.

Gentianella fugax autumnalis elatior, Centaurii minoris folio. *Raii Syn.* 275 ?

β G. fugax verna ſeu præcox. *Raii Syn.* 275.

FOUND in graſſy paſtures above lime-ſtone rocks, varying in ſize according to the degree of moiſture, and flowering in Auguſt and September—The variety β flowers from April to June.

Root annual, twiſted, yellowiſh. Stem ſquare, erect, bearing ſeveral pair of ſeſſile, ovate, 3-nerved, dark-green leaves, and clothed from top to bottom with flowers, on ſhort, axillary, forked ſide branches, one being terminal. Calyx pale, with green ribs, and divided half way down into 5 lanceolate, nearly equal, ſegments. Tube of the corolla twice as long as the calyx; limb in 5 ſegments, rarely but 3 or 4, horizontal when the ſun ſhines, the orifice crowned with a purple upright fringe, which conceals the ſtamina. Germen oblong; ſtyles very ſhort; ſtigmas divaricated. The whole herb is intenſely bitter, and poſſeſſes the ſtomachic virtues of its congeners.

It is extremely difficult to aſcertain the 3 Gentians mentioned in Ray's Synopſis, 275. Neither he, nor his editor Dillenius, ſeems to have been aware of the real difference between *G. Amarella* and *campeſtris*, and their Synonyms are almoſt all quoted with heſitation. We can therefore only gueſs, from the ſlender materials before us, what they intended.—As to the *Vernal dwarf Gentian*, we quote it as a variety, having been favoured with a ſpecimen gathered by the late accurate Sir John Cullum, on the heath between Grantham and Ancaſter, in flower June 6, 1774, which he therefore reaſonably preſumed was the above plant of Ray. But it differs in no reſpect from *G. Amarella*, except in time of flowering. As we are on the ground of conjecture, may not ſuch early-flowering ſpecimens be ſome that happened to ſpring up in the preceding autumn, and ſtood the winter?

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GENTIANA campeſtris.

Field Gentian.

PENTANDRIA Digynia.

GEN. CHAR. *Cor.* of one petal. *Capſule* ſuperior, one-celled, two-valved, with two longitudinal receptacles.

SPEC. CHAR. Corolla four-cleft, bearded in the orifice. Two outer ſegments of the calyx very large.

SYN. Gentiana campeſtris. *Linn. Sp. Pl.* 334. *Hudſ. Fl. An.* 103. *With. Bot. Arr.* 262. *Sibth. Oxon.* 86.

G. pratenſis flore lanuginoſo. *Raii Syn.* 275 ?

WE received this from near Bury, along with the preceding. It grows in paſtures, more particularly towards the ſea; nor is it ſo much confined to a lime-ſtone ſoil as that ſpecies. It is annual, flowering in September and October.

This in habit is much like the laſt, though rather paler in colour altogether, and never ſo tall: the ſtem being leſs drawn up, the flowers fewer, and on longer flower-ſtalks, they appear more corymboſe. But the eſſential and all-ſufficient mark of diſtinction is in the calyx being deeply divided into 4 unequal ſegments, 2 of which are external, oppoſite, oval, very large, completely enfolding and concealing the 2 others, which are lanceolate and not a fifth part ſo broad. This character was noted by Linnæus in *Flo. Lapponica*, and is adopted by Haller. Surely it ought to have been mentioned in *Sp. Pl.* But it is ſtill more wonderful that Linnæus ſhould have doubted whether this were a ſufficient diſtinction.

When we preſume ours to be the above plant of Ray, we by no means believe it to be alſo that of Bauhin, which is moſt probably (as all authors ſuppoſe) *G. Amarella*.

JUNCUS articulatus.

Jointed Ruſh.

HEXANDRIA Monogynia.

GEN. CHAR. *Cal.* of 6 leaves. *Cor.* none. *Capſule* of one or three cells.

SPEC. CHAR. Leaves with knotty joints. Flowers in ſmall cluſters, panicled.

SYN. Juncus articulatus. *Linn. Sp. Pl.* 465. *Hudſ. Fl. An.* 149. *With. Bot. Arr.* 361.

J. compreſſus. *Relh. Cant.* 142. *Sibth. Oxon.* 114.

J. foliis articuloſis, floribus umbellatis. *Raii Syn.* 433.

VERY common in meadows and moiſt paſtures, flowering in June, and ripening its ſeed in July.

The root is creeping and perennial. Stems obliquely aſcending at the baſe, then erect, ſmooth like every other part, round, a foot or more in height, clothed with a few alternate, ſheathing, recurved, pointed leaves; which are occaſionally cylindrical or compreſſed, hollow, their cavity divided by numerous tranſverſe partitions, which make the dried leaves appear jointed. Panicle terminal, forked, more or leſs compound, the flowers from 3 to 5 or 6 together, ſeſſile, in little heads enveloped in membranous bracteæ. Calyx-leaves (which all authors copying one another call *petals*) lanceolate, pointed, longer than the ſtamina. Style very ſhort, with 3 long downy ſtigmata. Capſule ſharply triangular, of a poliſhed brown.

We cannot ſee any reaſon to make the upland variety of this plant (Mr. Relhan's *articulatus*) a diſtinct ſpecies; at leaſt it is certain that neither the leaves being more or leſs compreſſed, nor the panicle more or leſs compound, are permanent marks of diſtinction.

1453.

Lycopodium inundatum.

LYCOPODIUM inundatum.

Marſh Club-moſs.

CRYPTOGAMIA Miſcellaneæ.

GEN. CHAR. *Capſules* axillary, ſolitary, naked, kidney-ſhaped, of two elaſtic valves and one cell. *Seeds* numerous, minute.

SPEC. CHAR. Leaves ſcattered, entire. Spikes terminal, leafy.

SYN. Lycopodium inundatum. *Linn. Sp. Pl.* 1565. *Hudſ. Fl. An.* 463. *With. Bot. Arr. v.* 3. 69. *Relh. Cant.* 393.

L. paluſtre repens, clava ſingulari. *Dill. Muſc.* 452. *t.* 62. *f.* 7.

Muſcus terreſtris repens, clavis ſingularibus folioſis erectis. *Raii Syn.* 108.

ONE of our leſs common ſpecies of Club-moſs. It may however be met with on the wet part of turfy bogs, eſpecially on a ſandy bottom, as Bagſhot Heath, and St. Faith's bogs near Norwich.

The roots are perennial, and the ſtems creeping, cloſe-preſſed againſt the ground. Leaves thickly ſet without any regular order; thoſe on the proſtrate ſtems curved upwards from the ground, pointed, entire, ſlightly concave, of a paliſh green. Short upright ſimple ſtems or branches, on which the leaves ſpread in every direction, ariſe here and there, each bearing one erect leafy ſpike of roundiſh capſules, the leaves accompanying which capſules have ſometimes a large tooth on each ſide towards their baſe.

The fructification may be found from the end of June to September.

ASPLENIUM lanceolatum.

Lanceolate Spleenwort.

CRYPTOGAMIA Filices.

GEN. CHAR. *Fructif.* in ſcattered lines. *Involucrum* originating laterally from a vein, and burſting inwardly.

SPEC. CHAR. Frond lanceolate, alternately doubly pinnated; leaflets obovate, deeply and ſharply crenated.

SYN. Aſplenium lanceolatum. *Huds. Fl. An.* 454. *With. Bot. Arr. v.* 3. 54.

THIS fern, which ſeems to have been hitherto but very little known, was diſcovered by Mr. T. F. Forſter jun. on the Great Rocks at Tunbridge Wells. Specimens of it gathered by the celebrated circumnavigators of the ſame name in the Iſland of Fayal, one of the Azores, are preſerved in Sir J. Banks's herbarium. There appears to be no doubt of its being Mr. Hudſon's *A. lanceolatum*, but we dare not adopt his uncertain ſynonym of Ray; for it does not ſeem probable that the botaniſts of that day, inattentive to the fructification of ferns, would have judged the plant before us to be by any means allied to *A. Adiantum-nigrum*. Neither can we aſſent to its being *A. Trichomanes-ramoſum* of Linnæus. For although no ſpecies ſo marked is in his herbarium, and therefore it cannot poſitively be determined, it appears extremely probable he meant no other than *A. viride* of Hudſon, which has ſometimes a divided ſtem; moreover our plant is in the Linnæan herbarium, in one place paſted by M. de Sauvages to *Polypodium regium*, and in another unnamed, and laid looſe into the genus *Polypodium*, to which (having never ſeen it but in an advanced ſtate of fructification) Linnæus would doubtleſs have referred it.

The root is crowned with tufts of long narrow black ſcales. Fronds in ſize and habit ſomewhat like *Pol. fragile*, their general outline lanceolate, their colour bright green, which is but little changed by drying. Stalk ſmooth, black below, green upwards. Pinnæ lanceolate, pinnated in their lower part, lobed above; pinnulæ and lobes obovate, veiny, ſharply crenate or toothed. Fructification in lines, burſting towards their neareſt nerve, but ſometimes very ſhort, and in an advanced ſtate forming roundiſh as well as oblong patches of capſules.

MALVA pusilla.

Small-flowered Mallow.

MONADELPHIA Polyandria.

GEN. CHAR. *Cal.* double; the outermost of three leaves. *Seed-cases* numerous; *seeds* solitary.

SPEC. CHAR. Stem declining. Leaves roundish-heart-shaped, slightly five-lobed. Flowers pedunculated, generally in pairs. Petals the length of the calyx.

SYN. Malva parviflora. *Hudſ. Fl. An.* 307.

M. minor, flore parvo cæruleo. *Raii Syn.* 251.

WE have this for the *Malva parviflora* of Mr. Hudson, on the authority of a specimen communicated by that gentleman to Mr. Relhan, and said to have been gathered by himself in a wild state near Hythe in Kent. Some seeds remaining upon it being sown, vegetated, and the specimen here delineated is a regular descendant of the original plant. Specimens most precisely agreeing with it are in the Linnæan herbarium from the Upsal garden, and are incautiously marked by Linnæus *M. parviflora*, though evidently distinct from the genuine original ones so named, described in *Amœn. Acad. v.* 3. 416, and well represented by Jacquin's figure, *Hort. Vind. t.* 39. In that true *M. parviflora* the leaves are very angular, and sharply serrated; the flowers sessile (or nearly so), 3 or 4 together in axillary clusters.

There is more difficulty in distinguishing Mr. Hudson's plant (which we have named *pusilla*) from *M. rotundifolia*, to which it is most nearly allied, and future experience must show whether they be permanently distinct or not. In leaves and stem they are much alike; but *M. pusilla* appears to have never more than two flowers from each *axilla*, instead of 4, 5, or a still greater number; and the petals scarcely exceed the calyx, instead of being more than twice as long. In the coverings of the seeds, so important in the neighbouring genus of *Geranium*, we find no difference. In both species when dry they are reticulated with transverse wrinkles.

In the *Flora Anglica* this plant is marked as biennial. We have not quoted the *Bot. Arr.* because every thing that is there said upon the subject is either taken from Mr. Hudson's account, or from the real *M. parviflora* of Linnæus.

Carex
Pseudo-Cyperus.

CAREX Pſeudo-Cyperus.

Baſtard-Cyperus Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of one leaf. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of one leaf. *Nectary?* inflated, cloven. *Stigmas* 3. *Seed* triangular, inveſted with the nectary.

SPEC. CHAR. Leaves ſcarcely ſheathing. Female catkins cylindrical, on flower-ſtalks, pendulous. Fruit ſomewhat divaricated. Nectary tapering to a beak.

SYN. Carex Pſeudo-Cyperus. *Linn. Sp. Pl.* 1387. *Hudſ. Fl. An.* 410. *With. Bot. Arr.* 1045. *Relh. Cant.* 354. *Goodenough Tr. of Linn. Soc. v.* 2. 188. Gramen cyperoides ſpica pendula breviore. *Raii Syn.* 419.

THIS is not very uncommon in wet ſhady places, flowering in June, and may eaſily be diſtinguiſhed from all the reſt of its genus, by the large thick pendulous pedunculated female ſpikes or catkins, of a yellowiſh green, ſometimes two together, but often ſolitary.

Root perennial, as (we believe) in every ſpecies of *Carex*. Stem with 3 acute rough cutting angles, above a foot high. Leaves embracing the ſtem, but with ſcarcely any *vagina*, long, broadiſh, harſh, with rough edges and nerve. Male catkin ſolitary, erect, with a bractea about half its length. Female catkins about four, on footſtalks nearly their own length, at firſt erect, but very ſoon pendulous. Scales in both ſexes awl-ſhaped, rough, dilated and concave at the baſe. Stamina ſhort. Suppoſed nectary ſtriated, compreſſed, with rough edges, cloven at the tip, encloſing the germen, which is ſmall. Style ſimple, as long as the nectary, its 3 ſtigmas (white in decay) protruding beyond the orifice.

See Dr. Goodenough's excellent paper above quoted for a more ample deſcription of this ſpecies, as well as for remarks upon the generic character of *Carex*. We only beg leave to obſerve, that the part we for the preſent, with Linnæus, call *nectary*, can on no account be denominated a capſule, being perfectly independent of the germen and ſtyle. We would with to call it the *corolla*.

Centaurea
Solstitialis.

CENTAUREA ſolſtitialis.

St. Barnaby's Thiſtle.

SYNGENESIA Polygamia fruſtranea.

GEN. CHAR. *Receptacle* briſtly. *Seed-down* ſimple. *Cor.* of the radius funnel-ſhaped, irregular, longer than thoſe of the diſk.

SPEC. CHAR. Flowers ſolitary. Calyx doubly ſpinous. Stem-leaves decurrent, without ſpines, lanceolate; radical ones lyrato-pinnatifid.

SYN. Centaurea ſolſtitialis. *Linn. Sp. Pl.* 1297. *Hudſ. Fl. An.* 377. *With. Bot. Arr.* 946. *Smith Tr. of Linn. Soc. v.* 2. 236.

Carduus ſtellatus luteus foliis Cyani. *Raii Syn.* 196.

Yellow Thiſtle. *Petiver Herb. Brit. t.* 21. *f.* 12.

DISCOVERED by Mr. Crowe in a field at Arminghall near Norwich, ſee *Linn. Soc. Tranſ.* above quoted. Upon mature conſideration we have no doubt of this being the real plant of Ray and Hudſon, more particularly as it is that of Petiver, who in this caſe is the beſt and oldeſt authority we can find. His figure is evidently *C. ſolſtitialis*, and not *melitenſis*. The plant has of late been ſought in vain about Cirenceſter; and being ſo very rare a native, we now venture to preſent the public with a figure which, though taken from a garden ſpecimen (Mr. Crowe's being deformed and damaged), perfectly exhibits the true habit of the ſpecies when wild.

The root is annual, whitiſh. Stem near two feet high, alternately branched, winged from the decurrent leaves, which are lanceolate and entire, ſlightly waved; the radical leaves are 4 or 5 inches long, lyrate, the lobes alternate, acute, the terminal one large, and more or leſs triangular. Flowers ſolitary at the end of each branch, bright yellow. Scales of the calyx tipped with palmated yellowiſh ſpines, of which the central one is very long, ſtrong, and different from the reſt. The whole herb is harſh and rigid, but clothed with a cotton-like web (as is the calyx), ſomewhat viſcid, and intenſely bitter. It flowers about Midſummer, whence the name; but laſts till late in autumn, and in the ſouth of Europe even till December.

231.

1. Alchemilla alpina.

April 1793 Published by J. Sowerby London

ALCHEMILLA alpina.

Alpine Ladies' Mantle.

TETRANDRIA Monogynia.

GEN. CHAR. *Cal.* in 8 ſegments. *Cor.* none. *Seed* 1, naked.

SPEC. CHAR. Leaves digitate, ſerrated.

SYN. Alchemilla alpina. *Linn. Sp. Pl.* 179. *Hudſ. Fl. An.* 71. *With. Bot. Arr.* 162.

A. Alpina pentaphyllos. *Raii Syn.* 158.

MOST rocky mountains in the alpine parts of England and Scotland produce this elegant little plant; and in proportion to the barrenneſs and openneſs of its ſituation, is the rich ſilvery ſatin of the back of its leaves more denſe and ſplendid. It is moſt conſpicuous when agitated by the wind; for the flowers, though they partake externally of the ſame ſilvery hue, are ſmall and inconſiderable.

The root is perennial, ſtrong, and deeply fixed in the clefts of rocks, chiefly preferring the micaceous kind. Leaves radical, on long ſlender footſtalks, deeply cloven into five (rarely more) obovate ſerrated ſegments, dark green and ſmooth on the upper ſide, very ſilky beneath. Stalk erect, alternately branched, with a ſmall leaf and 2 ſtipulæ at each ſubdiviſion. Flowers on partial ſlender ſilky flower-ſtalks, downy without, ſmooth and green within. Calyx cup-ſhaped, rim ſpreading, in 4 large ſegments, with 4 ſmall intermediate, rather external, ones, oppoſite to which laſt the ſtamina are placed. Germen ovate, in the bottom of the calyx, which inveſts alſo the ripe ſeed. Style from the baſe of the germen, evincing its affinity to *Potentilla*, *Fragaria*, &c. which its habit and aſtringent qualities confirm. The flowers appear in July.

Lecidea geographica.

April 1793 Published by J. Sowerby London

LICHEN geographicus.

Map Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, ſcattered warts.

Female, ſmooth ſhields or tubercles, in which the ſeeds are imbedded.

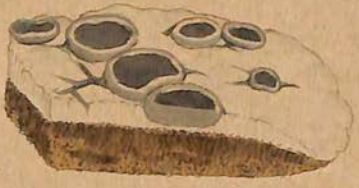
SPEC. CHAR. Cruſtaceous, ſmooth, yellow with a black margin. Tubercles black, flat and irregular, imbedded in the cruſt.

SYN. Lichen geographicus. *Linn. Sp. Pl.* 1607. *Huds. Fl. An.* 523. *With. Bot. Arr.* v. 3. 168.

Lichenoides nigro-flavum, tabulæ geographicæ inſtar pictum. *Dill. Muſc.* 126. *t.* 18. *f.* 5.

THIS pretty and ſingular production, which many a heedleſs eye paſſes by in its natural place of growth, but which, when preſented to their notice, the moſt incurious perſons cannot help admiring, is found in elevated mountainous ſituations on the harder kinds of rocks, which it covers in large patches of a hard ſmooth inſeparable cruſt, of a bright yellow or greeniſh colour. The black undulating margin is ſo extremely thin, as to look like a mere ſtain on the ſtone; but when two plants of this Lichen meet, they crowd one another's margins into a narrower line, and ſometimes obliterate them, the yellow part of the cruſt riſing above them. This cruſt is full of cracks, eſpecially in dry weather, like the mud of a pond when dried up, and the whole is interſperſed with ſmall, unequal and irregular, black, opaque, angular, ſlightly concave tubercles or ſhields, exactly on a level with the cruſt in which they are imbedded. Hence the appearance of the whole gives ſome idea of a map, ſprinkled with towns, and interſected with rivers and boundaries of countries. We believe this ſpecies is never found on lime-ſtone. It is very doubtful whether *L. atro-virens* be ſpecifically diſtinct from this.

The yellow of the cruſt is ſometimes changed, by age or accident, to a grey, in which ſtate it might be taken for another ſpecies.



Lecidea petræa.

April 1st 1795 Published by J.t Sowerby, London

LICHEN concentricus.

Concentric Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, ſcattered warts.
Female, ſmooth ſhields or tubercles, in which the ſeeds are imbedded.

SPEC. CHAR. Cruſtaceous, whitiſh. Shields black, confluent, in concentric circles, imbedded in the cruſt.

SYN. Lichen concentricus. *Davies, Tr. of Linn. Soc. v.* 2. 284.

L. petræus. *Jacq. Coll. v.* 3. 116. *t.* 6. *f.* 2, a. a. a.

FOUND on rocks of whin-ſtone in the pariſh of Whitford, Flintſhire, by the Rev. Mr. Hugh Davies, F. L. S. The cruſt is ſomewhat mealy, very thin, of a greyiſh white. The ſhields ſcarcely riſe above its level, and are remarkable for being arranged in concentric lines, ſometimes forming ſeveral very regular circles, one within another, with a few diſperſed ſhields between. The ſhields are ſmall, black, opaque, concave, with a margin generally white, particularly in the young ones. Their outline is ſeldom quite circular, eſpecially as they are moſtly crowded together in lines, ſo as to force one another into an angular ſhape, and to become in a manner confluent.

That this is the plant of Wulfen, publiſhed by Jacquin in his *Collectanea* above quoted, there can be no doubt, as the deſcription and figures exactly agree with ours. With reſpect to the ſynonyms, which made Mr. Davies uncertain about it, they are unqueſtionably wrong, as the ſynonyms of Wulfen (otherwiſe an excellent botaniſt) too often are. The name *concentricus* is ſo very apt and ſo ſtrikingly characteriſtic, we could not heſitate about preferring it to the unmeaning one of *petræus*.

Published by J. Sowerby May 1st 179:

THESIUM linophyllum.

Baſtard Toad-flax.

PENTANDRIA Monogynia.

GEN. CHAR. *Cor.* none. *Cal.* of one leaf, bearing the ſtamina. *Seed* one.

SPEC. CHAR. Spike branched. Bracteæ ternate. Leaves linear-lanceolate. Tube of the calyx very ſhort.

SYN. Theſium Linophyllum. *Linn. Sp. Pl.* 301. *Huds. Fl. An.* 101. *With. Bot. Arr.* 247. *Relh. Cant.* 99. *tab.* *Sibth. Oxon.* 414.
Linaria adulterina. *Raii Syn.* 202.

WE have received this plant from Sir Thomas Cullum, and the Rev. Mr. Hemſted, gathered near Bury and Newmarket, and alſo from the Lime-kiln hill, near Shouldham in Norfolk, where (for the firſt time, to our knowledge, in that county) it was found by the Rev. Mr. Forby. It grows on a chalk ſoil, flowering in July.

Root woody, branched, crooked, whitiſh, perennial. Stems ſeveral, reclining, 5 or 6 inches high, but little branched, angular and ſtriated, clothed with numerous alternate linear leaves, all pointing one way, ſomewhat glaucous and ſucculent, entire. The whole herb is deſtitute of pubeſcence, but the edges of the leaves, bracteæ, and angles of the ſtem appear rough under a microſcope. Flowers in ſpikes (moſtly branched, and ſometimes ſo compound as to form a panicle), ſolitary, on alternate flower-ſtalks, with 3 bracteæ cloſe to each flower ſhaped like the leaves, but in the lower part of the ſpike one is much larger than the other two. Calyx funnel-ſhaped, the tube very ſhort and open, margin ſpreading, 5-lobed; lobes triangular, with a tooth on each ſide near the baſe, very white above, and at the margin beneath. Stamina 5, oppoſite to the calyx-lobes. Style erect, equal to the ſtamina. Stigma with 2 knobs. Seed oval, 5-angled, ſtriated, hard, inveſted with the permanent calyx. The herb is ſcarcely bitter, a little ſaltiſh.

This without doubt is *T. Linophyllum*; but when cultivated, as Linnæus had it, the whole herb becomes luxuriant, the ſpike panicled and leafy, according to his definition. *T. alpinum* differs from this in having a long tubular calyx; otherwiſe they are much alike. The intermediate kind, mentioned in Witherings, we believe to be the proper wild appearance of *Linophyllum*.

Coronopus didyma.

LEPIDIUM didymum.

Procumbent Pepper-wort.

TETRADYNAMIA Siliculoſa.

GEN. CHAR. *Pouch* notched, with many ſeeds: valves keeled, but not margined: partition contrary to them.

SPEC. CHAR. Stem procumbent, hairy. Leaves pinnatifid. Fruit didymous.

SYN. Lepidium didymum. *Linn. Mant.* 92. *Dickſ. Dr. Plants*, 11. *With. Bot. Arr.* 671.

L. anglicum. *Hudſ. Fl. An.* 280.

GATHERED by John Adams, Eſq. at Dale, a village near the entrance of Milford Haven. Mr. Hudſon mentions this ſpecies (which eſcaped Ray and Dillenius) as a native of Devonſhire and Cornwall among rubbiſh. It is an annual, flowering in July, and is in a manner naturalized in Chelſea garden. Our figure, however, has been drawn from real wild ſpecimens, like all the reſt in this work when we do not expreſsly mention the contrary; for we do not approve of impoſing *cultivated* ſpecimens upon the public for *wild* ones, which "in ſimilar works (according to Mr. Curtis's juſt obſervation, *Bot. Mag.* 154.) every plant is expected to be."

The roots of *Lepidium didymum* are ſmall and fibrous. Stems procumbent (which Linnæus, having it only in a dried ſtate, did not know), roundiſh, piloſe, alternately branched, leafy. Leaves alternate, ſmooth, pinnatifid, the lobes notched, eſpecially on the foreſide. Spikes generally oppoſite to the leaves, many-flowered, and ſoon lengthened out into racemi. Flowers very ſmall, with 2 or 4 ſtamina, ſcarcely more. Pouch very diſtinctly two-lobed, rugged, and much reſembling that of *Cochlearia Coronopus*, to which this plant is very nearly related as to generic character; and indeed Linnæus ſays, it is an intermediate ſpecies between the two genera. *Mant.* 92.

Cornus

CORNUS ſanguinea.

Wild Cornel-tree, or Dog-wood.

TETRANDRIA Monogynia.

GEN. CHAR. *Cal.* of 4 teeth. *Petals* four. *Drupa* inferior. *Nut* of two cells.

SPEC. CHAR. Branches ſtraight. Leaves ovate, green on both ſides. Cymes without involucra.

SYN. Cornus ſanguinea. *Linn. Sp. Pl.* 171. *Huſſ. Fl. An.* 70. *With. Bot. Arr.* 160. *Relh. Cant.* 68. *Sibth. Oxon.* 61. *L'Herit. Corn.* 5.

C. fœmina. *Raii Syn* .460.

COMMON every where in hedges, yet moſt plentiful on a chalk or lime-ſtone ſoil. It flowers in June, and the berries ripen in Auguſt.

This ſhrub grows to the height of 4 or 5 feet; its wood is hard and even, fit for the uſe of turners, the bark ſmooth and of a dark red, except on the very youngeſt branches. Leaves oppoſite, ovate, entire, ſtrongly nerved, green (not ſilky) beneath, entirely red before they fall, as in many American ſhrubs, to which country the genus of *Cornus* (though not this ſpecies) moſtly belongs. Cymes terminal, flattiſh, of many greeniſh-white flowers, with an unpleaſant ſmell. Petals revolute in the margin. Germen crowned with a glandular ring, into which the petals and ſtamina are inſerted. Stigma obtuſe. Berries dark purple, very bitter, as is the whole plant. It is ſaid oil for lamps may be procured from them if boiled in water and preſſed. See Ray's Synopſis, 460.

330.

RHAMNUS Frangula.

Berry-bearing Alder.

PENTANDRIA Monogynia.

GEN. CHAR. *Cal.* tubular. *Petals* 5, oppoſite to the ſtamina. *Berry* with few ſeeds.

SPEC. CHAR. Spines none. Flowers hermaphrodite. Leaves ſmooth, entire. Seeds two.

SYN. Rhamnus Frangula. *Linn. Sp. Pl.* 280. *Huds. Fl. An.* 98. *With. Bot. Arr.* 240. *Relh. Cant.* 96. Frangula, ſeu Alnus nigra baccifera. *Raii Syn.* 465.

THIS ſhrub occurs in woods and thickets occaſionally in various parts of England, whether in Scotland or not is doubtful. It flowers early in May. The berries are ripe in July.

The ſtem grows 3 or 4 feet high, with numerous forked branches. Leaves on the young ones only, oppoſite, obovate, pointed, entire, veiny, of a bright pleaſant green. Flowers from the boſoms of the leaves, 2 or 3 together, on ſimple flower-ſtalks, greeniſh, ſmall. Calyx cup-ſhaped, with 5 reflexed ſegments, between which ſtand the little petals, and oppoſite to them the very minute ſtamina, with dark purple antheræ. Germen ſuperior, with a very ſhort ſtyle. Berry dark purple, with 2 hemiſpherical ſeeds.

According to the Diſpenſatory theſe berries are ſometimes mixed with thoſe of Buckthorn (*Rhamnus catharticus*), or ſubſtituted for them, as are even thoſe of the Cornel tree figured on the laſt plate. In the latter inſtance the deception would probably be greater than in the former, for both theſe *Rhamni* are nearly alike purgative. The work juſt quoted adds very properly, that theſe fruits are eaſily diſtinguiſhed, by the Buckthorn having 4 ſeeds, *R. Frangula* 2, and the *Cornus* but 1 or rather 1 nut encloſing 2 kernels

1891

Riccia fluitans.

Engraved, Published by J. Sowerby, June 1st 1891.

RICCIA fluitans.

Floating branched Riccia.

CRYPTOGAMIA Alg.

GEN. CHAR. *Cal.* and *Cor.* none. *Anthera* cylindrical, ſeſſile upon the *germen*, and perforated by the *ſtyle*. *Capſule* globoſe, crowned with the withered *anthera*. *Seeds* hemiſpherical, on foot-ſtalks.

SPEC. CHAR. Frond repeatedly forked, in linear ſegments.

SYN. Riccia fluitans. *Linn. Sp. Pl.* 1606. *Huds. Fl. An.* 522. *With. Bot. Arr. v.* 3. 162.

Ulva paluſtris furcata, anguſtioribus et firmioribus ſegmentis. *Raii Syn.* 63.

Lichenaſtrum aquaticum fluitans, tenuifolium, furcatum. *Dill. Muſc.* 514. *t.* 74. *f.* 47.

THE fronds float in little patches among duck-weed, and other ſuch plants, on the ſurface of ponds and ditches, emitting a few ſhort roots from the under ſide. Each frond is forked or branched in an alternate manner ſeveral times, its margin entire, ſubſtance pellucid, but not membranous, the tips blunt, often bifid, with little darkiſh ſpots near the extremity (ſee our magnified figure), which we dare not aſſert to be the ſeed-veſſels, nor has any botaniſt yet ſeen the fructification in any ſhape. There being ſo little hope of diſcovering it muſt be our apology for exhibiting the plant without, more eſpecially as it is a vegetable very little known, and which we beg leave to recommend to the examination of the curious.

Mr. Robert Teeſdale, F. L. S. ſent theſe ſpecimens from near Beverley in Yorkſhire.

RICCIA natans.

Fringed Riccia.

CRYPTOGAMIA. Algæ.

GEN. CHAR. *Cal.* and *Cor.* none. *Anthera* cylindrical, ſeſſile upon the *germen*, and perforated by the *ſtyle*. *Capſule* globoſe, crowned with the withered *anthera*. *Seeds* hemiſpherical, on foot-ſtalks.

SPEC. CHAR. Fronds inverſely heart-ſhaped, ciliated.

SYN. Riccia natans. *Linn. Syſt. Nat. ed.* 12. *v.* 2. 708. *Hudſ. Fl. An.* 522. *With. Bot. Arr. v.* 3. 162. *Relh. Cant. Suppl.* 3. 11.

Lichen parvus vernus cordiformis, ima parte fimbriatus, Lentis paluſtris modo aquæ innatans. *Raii Syn.* 116. *Dill. Muſc.* 536. *t.* 78. *f.* 18.

GATHERED in ponds near Beverley, and ſent with the laſt, by Mr. Teeſdale. This is an extremely rare ſpecies. It was obſerved by Buddle formerly in ponds near Hadleigh (not Henley) in Suffolk (*Raii Syn.*), and has ſince been found by Mr. Relhan near Cambridge, and the Rev. Mr. Bryant, near Heydon in Norfolk. Its fructification is unknown, but from the habit there can be little doubt about the genus.

The fronds float like duck-weed, and are in perfection in autumn. Each is cordate, more or leſs deeply lobed, ſcarcely the diameter of a ſplit pea. Their upper ſurface is minutely ſcaly, their margin fringed, but the numerous lanceolate ſerrated ſcales of the under ſide extend far beyond the fringe. We have delineated it of the natural ſize as well as magnified. Dillenius's figure is a very poor one.

Utricularia vulgaris.

UTRICULARIA vulgaris.
Greater Hooded-Milfoil.

DIANDRIA Monogynia.

GEN. CHAR. *Cal.* of two equal leaves. *Cor.* ringent, ſpurred. *Capſule* of one cell.

SPEC. CHAR. Nectary conical. Stalk with few flowers.

SYN. Utricularia vulgaris. *Linn. Sp. Pl.* 26. *Hudſ. Fl. Ang.* 8. *With. Bot. Arr.* 18. *Relh. Cant.* 9. *Sibth. Oxon.* 7.

Lentibularia. *Raii Syn.* * 286.

EVEN this ſpecies of *Utricularia* is not extremely common, though more ſo than the following. It is perfectly an aquatic; nor can it poſſibly grow out of the water, occurring only in ſtagnant ditches and pools, and flowering after Midſummer.

The fibrous floating roots, ſlightly attached to the mud, are ſuppoſed to be perennial. The ſtem likewiſe floats horizontally under water, alternately divided into capillary branches, with briſtly leaves bearing little compreſſed curved bladders, open and bearded at the tip, containing a bubble of air, and a drop of watery fluid, in which, when highly magnified, Dr. Withering obſerved a quantity of extremely minute ſolid particles. Aquatic inſects frequently take up their lodging in theſe bladders. The ſtalk only riſes erect a few inches above the water, and is rendered conſpicuous by its ſpike of large handſome alternate flowers, whoſe flower-ſtalks and calyx are reddiſh or purple, the corolla of one irregular labiate petal, the ſpur conical and recurved, the mouth cloſed, palate prominent, of an orange colour. Stamina thick and ſhort. Germen ſuperior, ſtyle ſhort; ſtigma concave and bearded. See Dr. Withering's excellent deſcription.

We cannot poſitively determine to which of the varieties mentioned by Linnæus (*Flo. Suec. & Sp. Pl.*) our plant belongs; nor can we learn that any other form of *U. vulgaris* than that here repreſented has been found in Britain.

UTRICULARIA minor.

Leſſer Hooded-Milfoil.

DIANDRIA Monogynia.

GEN. CHAR. *Cal.* of two equal leaves. *Cor.* ringent, ſpurred. *Capſule* of one cell.

SPEC. CHAR. Nectary keel-ſhaped.

SYN. Utricularia minor. *Linn. Sp. Pl.* 26. *Hudſ. Fl. An.* 9. *With. Bot. Arr.* 19. *Relh. Cant.* 9.
Lentibularia minor. *Raii Syn.* * 286.

BY far leſs frequent than the laſt. The Rev. Mr. Hemſted ſent it from the neighbourhood of Fordham Moor, Cambridgeſhire. It alſo grows on ſome moors to the north of Norwich, intermixed with *U. vulgaris*, and flowering at the ſame time. The two ſpecies alſo agree in habit and ſtructure, the *minor* being only about half the ſize of the other, with paler, and generally fewer, flowers. The eſſential difference conſiſts in the ſpecies now before us having a ſhort blunt nectary, which projects ſo little, compared with the other, that Linnæus calls it only carinated, not conical. The palate too is not ſo prominent as to cloſe the orifice of the corolla.

Linnæus's deſcription in *Flo. Suec.* is worthy of him, but we rather wonder at his calling the corolla *dipetalous*, however deeply divided.

Triglochin maritimum

TRIGLOCHIN maritimum.

Sea Arrow-Graſs.

HEXANDRIA Trigynia.

GEN. CHAR. *Cal.* three-leaved. *Petals* 3, like the calyx. *Style* none. *Capſule* burſting at the baſe.

SPEC. CHAR. Capſules ovate, of ſix cells.

SYN. Triglochin maritimum. *Linn. Sp. Pl.* 483. *Hudſ. Fl. An.* 152. *With. Bot. Arr.* 378.
Gramen marinum ſpicatum. *Raii Syn.* 435.
G. ſpicatum alterum. *Ger. em.* 20.

COMMON in ſalt marſhes, and muddy ſhores of large rivers where the ſalt tide comes, as about the Thames near Rocheſter, &c.

The root is ſtrong, woody and perennial, with long ſtraight fibres. Leaves ruſhy, ſemicylindrical, fleſhy, with an involute intrafoliaceous membranous ſtipula. Stalk ſolitary, ſcarcely longer than the leaves, inclining at the baſe, terminating in a ſimple denſe ſpike of numerous greeniſh-purple flowers, on ſhort flower-ſtalks, not all leaning one way as in the figure in Gerarde. The 6 antheræ are almoſt ſeſſile, and very large before they burſt. Germen with 6 furrows, changing to a capſule of the ſame ſhape and ſame number of cells, the more common freſh-water *Triglochin* having but three.

This ſpecies flowers throughout the ſummer. From the obſervation of Linnæus, that all domeſtic cattle are very fond of it, Dr. Stokes juſtly recommends it to the notice of thoſe who poſſeſs ſalt marſhes.

Euphorbia
amygdaloides.

EUPHORBIA amygdaloides.

Wood Spurge.

DODECANDRIA Trigynia.

GEN. CHAR. *Cor.* of 3 or 4 petals, ſtanding on the calyx. *Cal.* of one leaf, inflated. *Capſ.* three-lobed.

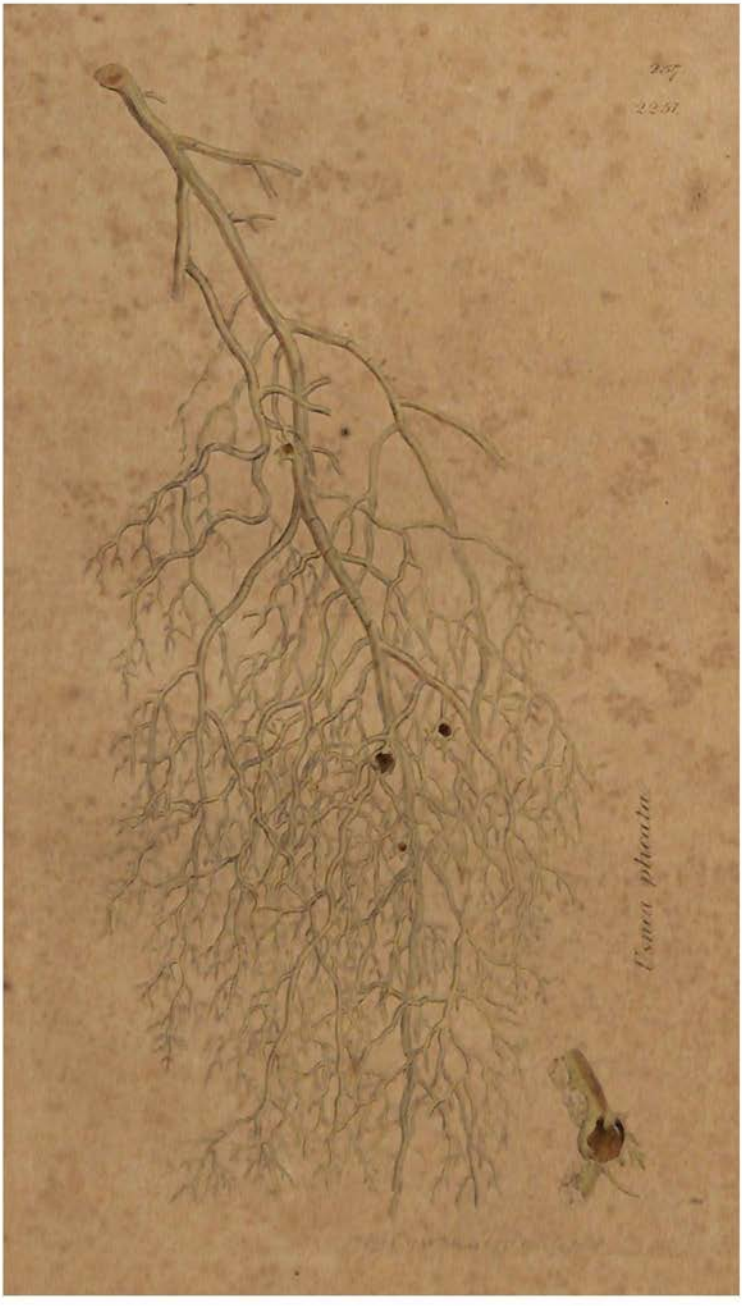
SPEC. CHAR. Flower-ſtalks ſcattered and umbellate, cloven. Involucra perfoliate, orbicular. Leaves obtuſe.

SYN. Euphorbia amygdaloides. *Linn. Sp. Pl.* 662. *Hudſ. Fl. An.* 210. *With. Bot. Arr.* 499. *Relh. Cant.* 186. *Sibth. Oxon.* 152.

Tithymalus characias amygdaloides. *Raii Syn.* 312.

THIS is found in woods, groves and thickets, frequently and plentifully, more eſpecially in a clay ſoil. It begins to flower in March, and continues ſome time. The leaves are almoſt ever-green, though of a ſoft delicate texture, and the whole plant is of an elegant habit and appearance, ſomewhat ſhrubby.

Root perennial. Stems ſeveral, 2 feet high, ſimple, curved, round, fleſhy, downy, often red; naked below, leafy above. Leaves alternate, thick-ſet, ſpreading, obovato-lanceolate, entire, blunt, downy, paler beneath. Flowers ſmall, yellow, on forked flower-ſtalks, of which the lower ones are axillary (the leaves which accompany them being more or leſs coloured, ſerrated, and reſembling *bracteæ*), the uppermoſt about 5 together in a terminal umbel. The *antheræ* are formed of two ſingular wedge-ſhaped lobes. Every part abounds with acrid milk. There is a variegated variety kept in green-houſes.


257
2251
Usnea plicata

LICHEN plicatus.
Stringy Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, ſcattered warts.
Female, ſmooth ſhields or tubercles, in which the ſeeds are imbedded.

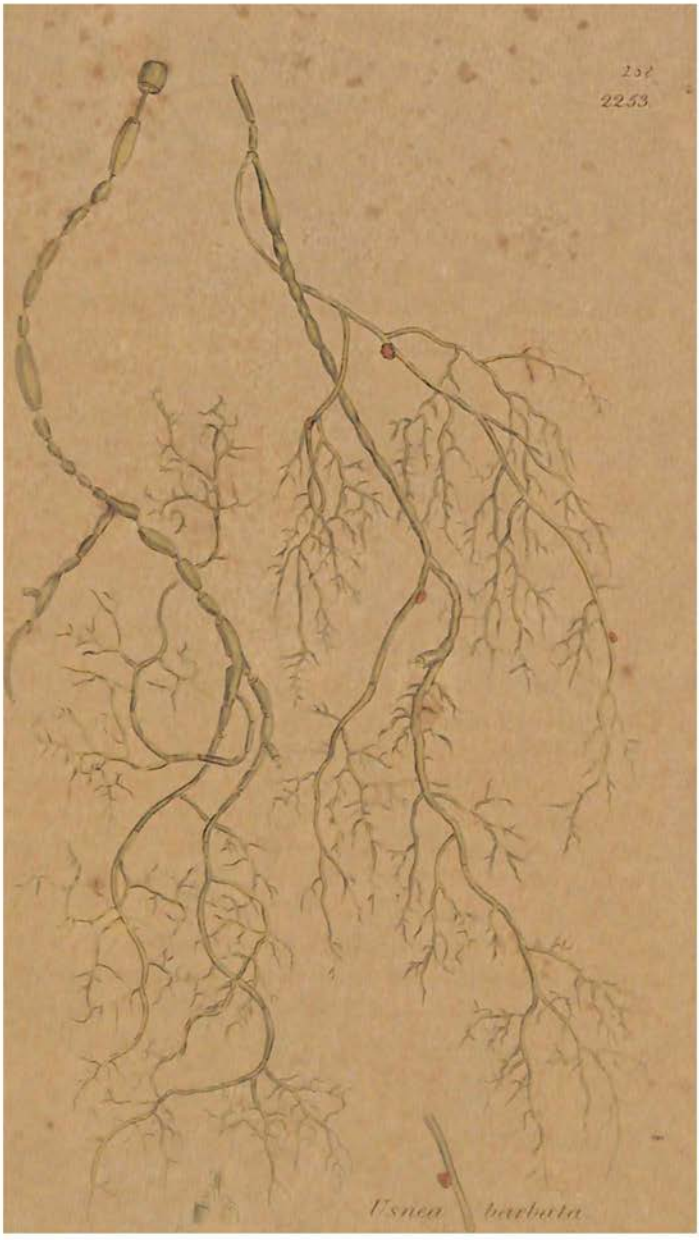
SPEC. CHAR. Filamentous, pendulous; the branches entangled. Shields radiated.

SYN. Lichen plicatus. *Linn. Sp. Pl.* 1622. *Huds. Fl. An.* 560. *With. Bot. Arr. v.* 3. 222. *Relh. Cant.* 441. *Lightf. Scot.* 889.
Muſcus arboreus, Uſnea Offic. *Raii Syn.* 64.
Uſnea vulgaris, loris longis implexis. *Dill. Muſc.* 56. *t.* 11. *f.* 1.

RARELY found hanging from the branches of old trees in dark ſhady woods, in Scotland as well as England. Dr. Pulteney communicated it from Dorſetſhire.

The whole plant is from one to two feet, or even more, in length, forming a thick entangled maſs of branching fibres, which are cylindrical, all more or leſs divaricated and undulated, none of them ſtraight. They are of an uniform greeniſh free-ſtone colour; the ſurface very ſmooth at firſt, but in the older parts rough with minute warts, ſuppoſed to be the male flowers. The main ſtems often crack here and there, diſcovering in the interſtices a very tough white central fibre which pervades the whole plant. The ſhields are now and then to be found about the divarications of the principal branches, and nearly of the ſame colour; their margins radiated with rigid pointed fibres.

This moſs, formerly uſed as a ſyptic, has long ſince given way to more active medicines.


252
2253
Usnea barbata

LICHEN articulatus.

Jointed Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, ſcattered warts.
Female, ſmooth ſhields or tubercles, in which the ſeeds are imbedded.

SPEC. CHAR. Filamentous, pendulous, cracked and tumid. Tubercles fleſh-coloured, rugged.

SYN. Lichen articulatus. *Linn. Sp. Pl.* 1623. *Hudſ. Fl. An.* 561. *With. Bot. Arr. v.* 3. 219. *Sibth. Oxon.* 335.

Muſcus arboreus nodoſus. *Raii Syn.* 65.

Uſnea capillacea et nodoſa. *Dill. Muſc.* 60. *t.* 11. *f.* 4.

β Lichen barbatus. *Linn. Sp. Pl.* 1622. *Hudſ. Fl. An.* 561. *With. Bot. Arr. v.* 3. 220. *Lightf. Scot.* 890.

Uſnea barbata, loris tenuibus fibroſis. *Dill. Muſc.* 63. *t.* 12. *f.* 6.

SENT by Dr. Pulteney from Dorſetſhire with the laſt. We do not heſitate to make the *L. articulatus fig.* 1, and *barbatus fig.* 2, one ſpecies, the propriety of which was firſt hinted by Mr. Lightfoot in *Flo. Scot.*, and we have adopted the ſame opinion from having alſo examined the ſpecimens of Dillenius, which in this caſe are the original authority. Both are found hanging upon trees in old woods in England and Scotland. The *barbatus*, which is the leaſt uncommon of the two, is leſs tumid, and not always ſo full of tranſverſe cracks as the *articulatus*. The latter has never yet been found in fructification with us, but in the ſouth of Europe it bears preciſely the ſame tubercles as *barbatus*, (ſee *Smith's Tour, v.* 1. 312 *and* 336.) which are ſmall, very convex, rugged, and of a pale fleſh-colour. By theſe tubercles, and the ſwellings of the ſtem, (the interſtices of which are moſt generally cracked, and diſcover the central fibre, as in *L. plicatus*) the ſpecies before us, and its variety, may be eaſily known from all others of the ſame tribe.

976.

GERANIUM columbinum.

Long-ſtalked Cranesbill.

MONADELPHIA Decandria.

GEN. CHAR. *Style* one. *Cor.* of 5 petals, regular. *Nectary* 5 glands at the baſe of the longer ſtamina. *Fruit* beaked, ſeparating into 5 caſes, each tipped with a long ſimple naked awn.

SPEC. CHAR. Stalks two-flowered, longer than the leaves; which are five-cleft and divided into many acute ſegments. Seed-caſes ſmooth. Calyx awned.

SYN. Geranium columbinum. *Linn. Sp. Pl.* 956. *Hudſ. Fl. An.* 304. *With. Bot. Arr.* 731. *Sibth. Oxon.* 214.

G. columbinum diſſectis foliis, pedicuſis florum longiſſimis. *Raii Syn.* 359.

GATHERED wild near Bird-brook, Eſſex, by Thomas Walford, Eſq. This is generally ſuppoſed to be a rare ſpecies, but we have obſerved it in various parts of Norfolk and Yorkſhire, as well as about Briſtol, always in a gravelly or calcareous ſoil, and never in any great quantity at once. It is an annual, flowering in June and July.

The whole herb is ſlender, moſtly procumbent, clothed with ſmall rigid cloſe-preſſed hairs, thoſe on the ſtem and ſtalks pointing downwards, the reſt upwards. Segments of the leaves linear. The long flower-ſtalks diſtinguiſh this ſpecies, and the calyx is five-angled, and tipped with very evident awns. Flowers of a delicate pale purple. Antheræ blue. Caſes of the ſeeds ſmooth, ſlightly keeled. Seed covered with minute punctures, as in *G. rotundifolium*.

In this genus the direction of the pubeſcence will be found uſeful in diſcriminating ſome ſpecies, as well as the ſeeds and their covers.

Linaria
vulgaris β Peloria.

ANTIRRHINUM Linaria, var. *Peloria.*

Deformed Yellow Toad-flax.

DIDYNAMIA Angiospermia.

GEN. CHAR. *Cal.* five-leaved. *Cor.* with a prominence at its base pointing downwards and bearing honey. *Caps.* two-celled.

SPEC. CHAR. Leaves linear-lanceolate, crowded. Stem erect. Spikes terminal. Flowers imbricated. Calyx smooth.

β Flowers regular, with 5 equal stamina and 5 nectaries.

SYN. Antirrhinum Linaria, Peloria. *Linn. Sp. Pl.* 859. *Hudſ. Fl. An.* 273. *With. Bot. Arr.* 648. *Curt. Fl. Lond. faſc.* 6. *t.* 41.

WE received a living ſpecimen of this ſingular variety or monſtroſity from the garden of Mr. Ordoyno at Newark, who obtained the root wild from a wood in Lincolnſhire. Mr. Curtis had it from the ſame ſource, and informs us it increaſes much by root, and ſometimes bears ſeeds. Whether the plants which they produce likewiſe bear monſtrous flowers, is as yet unknown; but it is probable they would not, varieties of ſtructure being far leſs frequently propagated by ſeed than varieties of colour. All ideas of this being a mule production, much leſs a diſtinct genus, are now exploded. Dr. Smith and others have obſerved the ſame transformation in many Britiſh and exotic ſpecies of *Antirrhinum*, with naturally-ſhaped flowers from the very ſame root, and *Bignonia radicans* ſometimes varies with a regular corolla and 5 equal ſtamina. We have mentioned, p. 207, a ſimilar very curious monſtroſity in *Galeopſis Tetrahit.*

Every part of the plant before us agrees exactly with the common *A. Linaria*, except the corolla and ſtamina. Root creeping, whitiſh. Stems erect, round, 2 feet or more in height. Leaves linear, ſmooth, ſomewhat glaucous, thickly ſet along the ſtem. Spikes terminating the ſtem and branches; of numerous flowers, with a lanceolate bractea to each. Calyx ſmooth. But inſtead of the natural ringent corolla with one ſpur, the flower is tubular, with 5 ſpurs at the baſe, and the orifice cloſed and purſed up, with a reflexed five-cleft margin. Stamina 5, equal, attached to the corolla, and alternate with its ſpurs. Germen and ſtyle in the natural ſtate. It flowers in June and July.

Atriplex
portulacoides

ATRIPLEX portulacoides.

Shrubby Orache, or Sea Purſlane.

POLYGAMIA Monœcia.

GEN. CHAR. Hermaphr. *Cal.* 5-leaved. *Cor.* none. *Stam.* 5. *Style* cloven. *Seed* 1, depreſſed.

Fem. *Cal.* 2-leaved. *Cor.* none. *Style* cloven. *Seed* 1, compreſſed.

SPEC. CHAR. Stem ſhrubby. Leaves obovate.

SYN. Atriplex portulacoides. *Linn. Sp. Pl.* 1493. *Hudſ. Fl. An.* 442. *With. Bot. Arr.* 1143. *Relh. Cant.* 378.

A. maritima fruticoſa, Halimus et Portulaca marina dicta, anguſtifolia. *Raii Syn.* 153.

ABUNDANT on the ſea ſhore in a clay ſoil, flowering in the latter part of ſummer.

The roots are long, woody, creeping and perennial. Stems ſhrubby, branched, ſpreading, about 1 or 2 feet high, round below, quadrangular above, clothed with oppoſite entire leaves, which vary in ſhape, being occaſionally obovate or lanceolate. Denſe cluſters of flowers in compound ſpikes terminate the ſtem and branches, and the lowermoſt ſpikes generally ariſe from the boſoms of 2 or 3 alternate leaves. One kind of flowers have yellowiſh antheræ, and a green regular 5-cleft calyx, turning yellow in decay; we have not obſerved any germen or ſtyle in theſe. The other kind are female, with 2 red downy ſtigmas, and a calyx of 2 equal valves. It is poſſible that hermaphrodite flowers may be occaſionally intermixed.

The whole plant is of a ſilvery glaucous hue, not inelegant. The leaves when dry are finely dotted beneath. The juices abound with alkaline ſalt.

Thalictrum alpinum

THALICTRUM alpinum.

Alpine Meadow-rue.

POLYANDRIA Polygynia.

GEN. CHAR. *Cal.* none. *Petals* 4 or 5. *Seeds* naked and beardleſs.

SPEC. CHAR. Stem perfectly ſimple and almoſt naked, terminated by a ſimple racemus.

SYN. Thalictrum alpinum. *Linn. Sp. Pl.* 767. *Hudſ. Fl. An.* 238. *With. Bot. Arr.* 569. *Lightf. Scot.* 286. *t.* 13. *f.* 1.

T. minimum montanum atro-rubens, foliis ſplendentibus. *Raii Syn.* 204.

THIS truly alpine plant grows in wet black mould in the cleſis of rocks, or on the ſpongy margins of little rills about the higheſt ſummits of the mountains of Wales and Scotland, nor is it rare in ſuch ſituations. As however we could have little hopes of procuring it freſh from thence, we have delineated it from a perfect garden ſpecimen ſent by R. A. Salisbury, Eſq. which, being compared with wild ones, ſhows this ſpecies to be very little altered by culture. It is perennial, and flowers early in ſummer.

The root conſiſts of a few ſimple fibres, and creeps juſt below the ſurface by horizontal runners. Radical leaves on long purpliſh footſtalks, firſt ternate, then either again ternate or pinnate; the leaflets roundiſh or wedge-ſhaped, varying much in breadth, with ſeveral blunt notches or lobes, of a ſhining green above, glaucous beneath, often purpliſh, ſmooth, veiny, a little revolute. Stem ſimple, erect, round, about twice as long as the leaves, glaucous or purpliſh, ſmooth, with one leaf (more or leſs compound) about the middle. The racemus or ſpike (though the former term is rather more proper than the latter, as the lowermoſt flowers remain in perfection till all the reſt are expanded) is very ſimple, at firſt drooping, then erect, of 8 or 10 alternate flowers, each on a ſlender ſtalk ſubtended by a ſimple bractea, of which ſome of the lowermoſt approach to the texture and colour of the leaves, the reſt being membranous. Petals 4, acute, white or purple. Stamina about 8 or 10, capillary, often purpliſh, with oblong vertical antheræ. Germens 2 or 4, roundiſh, green, each with a whitiſh, lanceolate, divaricated, downy ſtyle. From this deſcription it appears we have found a ſmaller number of ſtamina and ſtyles (in ſeveral ſpecimens that have come under our examination) than Linnæus deſcribes in *Sp. Pl.*

ULVA diaphana.

Pellucid Laver.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Frond* membranous or gelatinous, with the *ſeeds* ſcattered through its ſubſtance. *Woodward.*

SPEC. CHAR. Gelatinous, pale yellowiſh, pellucid, ſomewhat cylindrical, with numerous branches of various ſizes.

SYN. Ulva diaphana. *Hudſ. Fl. An.* 570. *With. Bot. Arr. v.* 3. 232.

Alcyonium gelatinoſum. *Linn. Syſt. Nat. v.* 1. 1295.

Fucus ſpongioſus nodoſus. *Raii Syn.* 49.

THIS ſingular production occurs now and then on the ſea coaſt in various places. Our figure was communicated by Mr. Woodward from a drawing by the ſon of Dr. Withering. The main ſtem, various in height, is ſeldom divided, but throws out many thick-ſet branches, which are alſo very various in length, ſometimes notched and divided, at other times ſimple and entire. Every part is exceſſively fleſhy and juicy, the ſurface ſmooth, the colour varying from a very pale brown, almoſt like that of wet ſea-ſand, to a clear yellow; in the latter caſe the plant has exactly the appearance of the ſubſtance called barley ſugar (a corruption, we preſume, of *ſucre brûlé*) of the paler kind. The whole ſubſtance abounds with innumerable minute ſeeds.

1090

Dicranum adiantoides

HYPNUM adiantoides.

Upright Hypnum.

CRYPTOGAMIA Muſci.

GEN. CHAR. *Capſule* with a lid. *Veil* ſmooth. *Flower-ſtalk* from a lateral tubercle inveſted with ſcales.

SPEC. CHAR. Frond pinnated, compreſſed, branched, upright. Flower-ſtalks from about the middle of the branch.

SYN. Hypnum adiantoides. *Linn. Sp. Pl.* 1588. *Hudſ. Fl. An.* 494. *With. Bot. Arr. v.* 3. 116. *Relh. Cant.* 408.

H. erectum filiciſolium ramoſum, pinnulis acutis. *Raii Syn.* 87.

H. taxiforme paluſtre ramoſum, majus et erectum. *Dill. Muſc.* 264. *t.* 34. *f.* 3.

NOT rare in wet boggy and ſhady places, among graſs and other moſſes, producing its capſules early in the ſpring. We gathered it in Kenſington gardens.

The whole frond is ſomewhat rigid, ſmooth, of a fine bright green, erect, about two inches high, always more or leſs branched. Leaflets alternate, cloſely arranged in two rows, compreſſed, and therefore making the frond perfectly flat; they are pointed, entire, embracing the main rib at their baſe, and very deeply carinated at their back. One or two flower-ſtalks are produced from near the middle of each branch, each originating from a ſcaly bud. They riſe much above the ſummit of the branch. The capſule is brown, nearly cylindrical, but not very long; the lid red, with a long taper beak; veil pellucid, tipped with brown; teeth of the capſule about ſixteen, deeply cloven.

1627.

Anomodon viticulosum

HYPNUM viticuloſum.

Cylindrical Hypnum.

CRYPTOGAMIA Muſci.

GEN. CHAR. *Capſ.* with a lid. *Veil* ſmooth. *Flower-ſtalk* from a lateral tubercle inveſted with ſcales.

SPEC. CHAR. Stems creeping. Branches erect, ſtraggling, cylindrical. Leaves ſpreading, pointed.

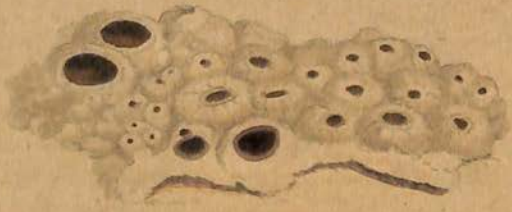
SYN. Hypnum viticuloſum. *Linn. Sp. Pl.* 1592. *Hudſ. Fl. An.* 501. *With. Bot. Arr. v.* 3. 131. *Relh. Cant.* 412.

H. repens trichoides arboreum majus, capitulis et ſurculis erectis, minus ramoſis. *Raii Syn.* 85.

H. ſubhirſutum, viticulis gracilibus erectis, capſulis teretibus. *Dill. Muſc.* 307. *t.* 39. *f.* 43.

THIS moſs was kindly communicated by the Rev. John Hemſted of Newmarket, with the *Hypnum adiantoides*. It often forms conſiderable denſe tufts about the roots of old trees, ſometimes among rocks and on chalk hills. When too much expoſed to the ſun, or when otherwiſe dried up, it turns very yellow, eſpecially the older leaves. The creeping ſhoots are cloſely entangled, and throw up numerous branches without any order, which are very upright, often ſimple, but generally once or twice divided, clothed with lanceolate ſpreading acute leaves. The flower-ſtalks grow ſolitary towards the top, and are not very long. Capſule cylindrical, with about 16 ſimple teeth, and a taper lid. Veil light brown, pointed.

When dry the leaves curl in, and give the plant a very criſped appearance. The capſules are to be found in April, and remain in a dry ſtate through the ſummer; but they are much more frequent in the north of England than with us.



Urceolaria scruposa

LICHEN ſcrupoſus.
Hollowed Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, ſcattered warts.

Female, ſmooth ſhields or tubercles, in which the ſeeds are imbedded.

SPEC. CHAR. Cruſtaceous, aſh-coloured, granulated. Shields immerſed, black; their margin incurved and finely notched.

SYN. Lichen ſcrupoſus. *Dickſ. Crypt. faſc.* 1. 11. *With. Bot. Arr. v.* 3. 179. *Sibth. Oxon.* 322.

L. excavatus. *Relh. Cant.* 426.

Lichenoides cruſtaceum et leproſum, ſcutellis nigricantibus majoribus et minoribus, varietas B. *Dill. Muſc.* 133. *t.* 18. *f.* 15, B.

ON dry chalky heaths, and brick walls not unfrequent in Norfolk, Suffolk, and Cambridgeſhire. The cruſt is mealy, varying in thickneſs, rugged, very white and chalky in appearance when dry; when wet more aſh-coloured. The ſhields are not only imbedded in it, but alſo concealed by an elevated thick inflexed margin, crenated at the edge, of the ſubſtance and colour of the cruſt. Their diſk is concave, of a brown black, or greyiſh.

This Lichen was confounded by Hudſon and Dillenius with the *ater*, from which it is very diſtinct in texture and colour. Dr. Sibthorp in his *Flora* ſeems not to have been aware of its being the *excavatus* of Mr. Relhan, but has erroneouſly referred that to the *muſcorum* of other authors, figured in *Flo. Cant.* 424. Micheli's figure *tab.* 52. *ord.* 33. (not 53.) ſeems to be our *ſcrupoſus*.

Gnaphalium dioicum.

GNAPHALIUM dioicum.

Mountain Cudweed, or Cat's-foot.

SYNGENESIA Polygamia-ſuperflua.

GEN. CHAR. *Receptacle* naked. *Down* feathery. *Cal.* imbricated; its marginal ſcales rounded, membranous and coloured. *Florets* all equal and tubular.

SPEC. CHAR. Shoots procumbent. Stem perfectly ſimple, bearing a ſimple corymbus. Flowers dioecious.

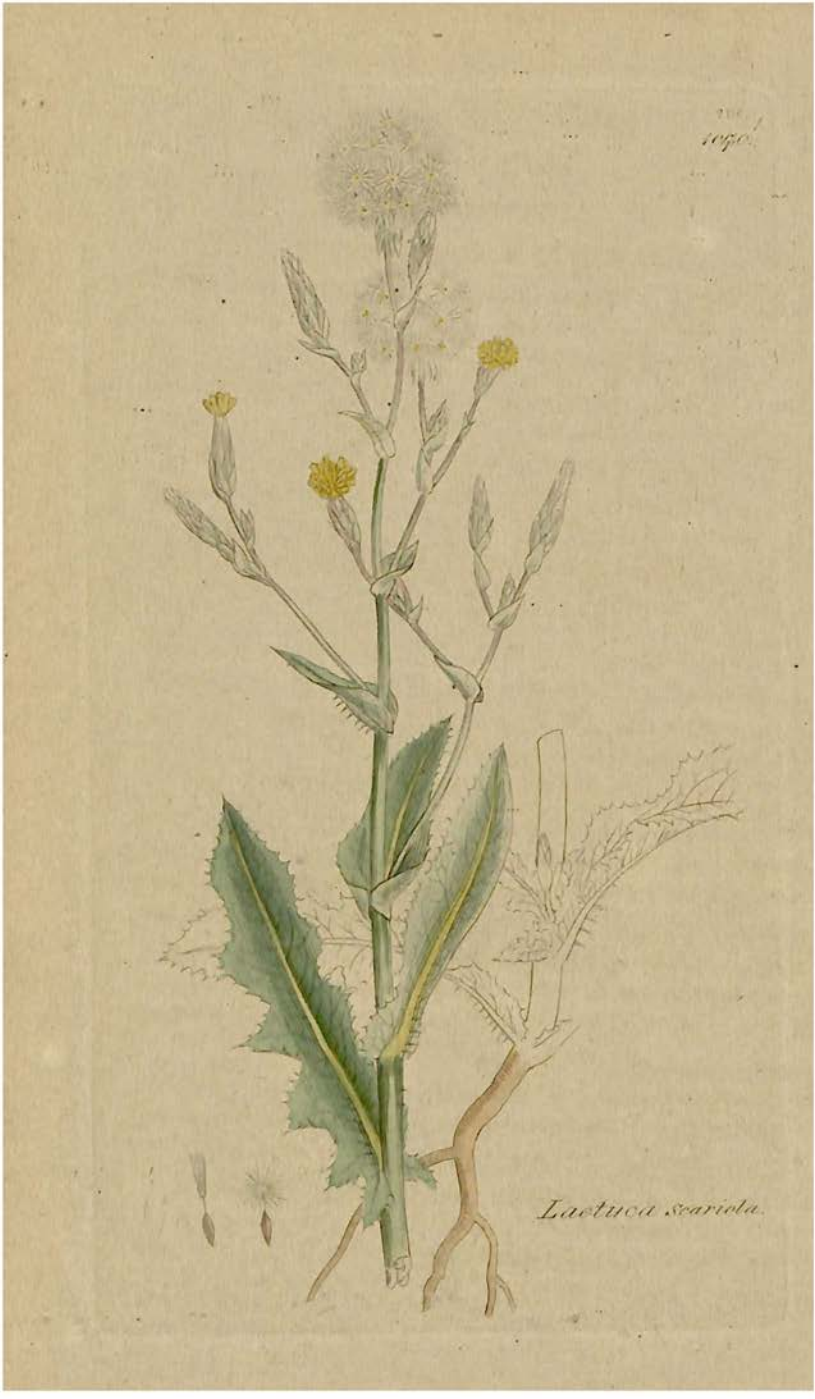
SYN. Gnaphalium dioicum. *Linn. Sp. Pl.* 1199. *Hudſ. Fl. An.* 360. *With. Bot. Arr.* 894. *Relh. Cant.* 311

G. montanum album. *Raii Syn.* 181. barren plant.

G. longiore folio et flore. *Raii Syn.* 182. fertile plant.

FOUND on dry mountainous heaths, and in barren paſtures of England, Scotland, and Wales. We received it from Mr. William Travis of Scarborough, in June laſt.

The roots are ſomewhat woody, creeping, perennial, and throw out long ſimple fibres which run deep into the ground. Runners ſeveral, leafy, procumbent, ſpreading in every direction. Leaves pointed, entire, bright green and ſmooth above, very white and cottony beneath; the radical ones, as well as thoſe on the procumbent ſhoots, are ſpatulate, and the latter moſtly oppoſite. From the crown of the root ariſes one ſimple upright flowering-ſtem, 3 or 4 inches high, round and cottony (like the runners), clothed with alternate lanceolate leaves, and terminated by a ſimple corymbus of 4 or 5 flowers, occaſionally white or reddiſh; the latter particularly are very pretty, and both retain their colour when dry, being of the tribe of *Everlaſtings*. The white are moſt generally (not always) male in effect, having only a barren ſtyle, and very obſcure rudiments of a ſeed, but their ſtamina are perfect. The others have only a piſtillum, but even in theſe the ſeed is ſeldom perfected, as Mr. Woodward (in *Bot. Arr.*) juſtly obſerves, the plants increaſing much by root. The ſcales of the calyx vary in length, but we do not find that either the long or round form is appropriated excluſively to either ſex.


Lactuca scariola.

LACTUCA Scariola.

Prickly Lettuce.

SYNGENESIA Polygamia-æqualis.

GEN. CHAR. *Recept.* naked. *Cal.* imbricated, cylindrical, with a membranous margin. *Down* ſimple, on a foot-ſtalk.

SPEC. CHAR. Leaves perpendicular; their mid-rib prickly on the back.

SYN. Lactuca Scariola. *Linn. Sp. Pl.* 1119. *Hudſ. Fl. An.* 338. *With. Bot. Arr.* 834. *Relh. Cant.* 293.

L. ſylveſtris coſta ſpinoſa. *Raii Syn.* 161.

GATHERED wild by the Rev. Mr. Hemſted near Denny Abbey between Cambridge and Ely. It grows among rubbiſh and on waſte ground in other parts of that country, but rarely elſewhere, flowering in Auguſt.

Root biennial, very full of milky juice, as is every part of the plant. Stem erect, 2 or 3 feet high, round, prickly, leafy, branched at the top into a ſort of panicle, conſiſting of numerous pale-yellow flowers. Leaves embracing the ſtem, toothed and prickly in the margin, their main rib ſet with numerous parallel ſpines along the back; the lowermoſt deeply lobed and ſinuated; thoſe on the ſtem turned perpendicularly, and not horizontal as in moſt plants. Calyx ſmooth. Flowers ſmall. Seed furrowed lengthwiſe.

This ſpecies, though bitter, acrid and fœtid in ſome degree, is much milder than the more common Wild Lettuce (*Lactuca viroſa*), and may eaſily be diſtinguiſhed from that by its paler colour altogether, its leſs ſpreading flower-branches, and its vertical leaves.

Dr. Stokes has exceedingly well obſerved that Hudſon's variety β belongs to *L. viroſa*.

Epipactis
latifolia

SERAPIAS latifolia.

Broad-leaved Helleborine.

GYNANDRIA Diandria.

GEN. CHAR. *Nectary* ovate, gibbous, with an ovate lip.

SPEC. CHAR. Roots creeping. Leaves ovate, embracing the ſtem. Flowers drooping. Lip entire, pointed, ſhorter than the petals.

SYN. Serapias latifolia. *Linn. Syſt. Veg. ed.* 14. 814. *Hudſ. Fl. An.* 393. *With. Bot. Arr.* 997. *Lightf. Scot.* 526. *Relh. Cant.* 340. *Sibth. Oxon.* 13.

S. Helleborine α. *Linn. Sp. Pl.* 1344.

Helleborine latifolia montana. *Raii Syn.* 383.

NOT uncommon in ſhady woods, eſpecially in the mountainous parts of this kingdom; we are obliged to the Counteſs of Aylsford for this ſpecimen. It flowers in July or Auguſt.

Root perennial, creeping horizontally, throwing out many long fibres, fleſhy, but by no means bulbous, thriving in the moiſt black vegetable mould of damp woods. Stem ſimple, erect, near two feet high, clothed with ſeveral alternate, ovate or lanceolate leaves, the lower ones ſheathing, the upper ſeſſile, all ſtrongly nerved, thin, rather rigid, not fleſhy. Spike erect, many-flowered. Bractew lanceolate, the lower ones longeſt. Flowers more or leſs drooping, on ſhort flower-ſtalks, of a browniſh green, and ſometimes dark purple (which is Mr. Hudſon's β); petals ovate, pointed, concave. Nectary ſhorter than the petals, concave, with a projecting margin; lip heart-ſhaped, entire, with a ſmall recurved point, purpliſh, but not ſtreaked. The colour of the flowers is very variable; they have generally a faint, aromatic, orchis-like ſmell. The germen and ſtem are more or leſs downy.

Epipactis palustris

SERAPIAS paluſtris.

Marſh Helleborine.

GYNANDRIA Diandria.

GEN. CHAR. *Nectary* ovate, gibbous, with an ovate lip.

SPEC. CHAR. Roots creeping. Leaves lanceolate, embracing the ſtem. Flowers drooping. Lip crenate, obtuſe, equal to the petals.

SYN. Serapias paluſtris. *Lightf. Fl. Scot.* 527.
S. latifolia γ, paluſtris. *Hudſ. Fl. Ang.* 393.
S. longifolia. *Linn. Syſt. Veg. ed.* 14. 815. *With. Bot. Arr.* 998. *Relh. Cant.* 341. *Sibth. Oxon.* 14.
Helleborine paluſtris noſtras. *Raii Syn.* 384.

IN ſwampy meadows and on watery commons in various parts of England, not very unfrequent; we doubt its being to be met with in any other kind of ſituation. The flowers are in perfection about July or Auguſt.

Root creeping, fleſhy, perennial. Stem erect, ſimple, 12 or 18 inches high, lower leaves ovate, often purple at the back; upper ones lanceolate, erect; all embracing the ſtem, and ribbed. Spike erect. Bracteæ lanceolate, about equal to the germen. Flowers fewer and much larger than in the preceding ſpecies, drooping, with downy, purple flower-ſtalks and germen. Petals rather obtuſe, the three outermoſt green, two innermoſt white, all ſtreaked and ſtained with purple. Nectary about as long as the petals, white ſtreaked with purple, and a yellow central line; lip heart-ſhaped, blunt, with a dilated waving crenated margin, and a notched protuberance above the baſe.

There is no doubt of this being a very diſtinct ſpecies from that in the laſt plate, and the characters above deſcribed ſufficiently diſtinguiſh them; there muſt therefore be a very great error in Mr. Hudſon's aſſertion, that this, if planted in a garden or dry ſoil, will the ſecond year become *S. latifolia*. We have known ſuch miſtakes ſometimes happen. We prefer Lightfoot's and Scopoli's name *palustris* to *longifolia*, becauſe the latter is more applicable to many other ſpecies, and the former, being extremely apt, is moſt generally adopted.

Epipactis
grandiflora

SERAPIAS grandiflora.
White Helleborine.

GYNANDRIA Diandria.

GEN. CHAR. *Nectary* ovate, gibbous, with an ovate lip.

SPEC. CHAR. Root creeping. Leaves elliptico-lanceolate. Bracteæ longer than the germen. Flowers erect. Lip obtuſe, rather ſhorter than the petals.

SYN. Serapias grandiflora. *Lightf. Fl. Scot.* 528. *With. Bot. Arr.* 1000. *Relh. Cant.* 341. *Sibth. Oxon.* 14.

S. longifolia. *Hudſ. Fl. An.* 393.

Helleborine flore albo. *Raii Syn.* 383.

COMMUNICATED by the Rev. Mr. Baker, F. L. S. from Glouceſterſhire. It occurs in woods and thickets, chiefly in the midland counties, very rarely in Scotland, flowering in June.

Root long and creeping, perennial. Stem about a foot high. Leaves ribbed, various in breadth, but generally rather elliptical than lanceolate, their baſe half embracing the ſtem. Spike erect, of from three to eight large white, nearly upright flowers. Lower bracteæ like the leaves in form and ſize; the others gradually leſs, but none ſhorter than the germen, which is ſlender, and deeply furrowed. Petals but little expanded, and enclоſing the lip of the nectary, which is heart-ſhaped, obtuſe, entire, with three elevated longitudinal yellow ribs on the upper ſide.

Much confuſion reigns among the Britiſh ſpecies of *Serapias*, which has chiefly originated with Linnæus, as is evident from the different editions of his works; nor are theſe plants ſettled as it could be deſired in the *Supplementum*, nor in Murray's editions of *Syſt. Veg.* The ſpecies before us is by the laſt-mentioned author very unaptly named *lancifolia*, and appears not to have been diſtinguiſhed by him from *enſifolia*. Lightfoot, from his quotation of *Fl. Dan. t.* 506, ſeems to have fallen into the ſame error; as Hudſon has likewiſe. The true *enſifolia* (ſee Withering) is Hudſon's var. γ, and has long narrow leaves, very ſmall bracteæ, and a lip much ſhorter than the petals. We hope one day to obtain it from Weſtmoreland or the north of Yorkſhire.

Geranium sanguineum

GERANIUM ſanguineum.

Bloody Cranſbill.

MONADELPHIA Decandria.

GEN. CHAR. *Style* one. *Cor.* of 5 petals, regular. *Nectary* 5 glands at the baſe of the longer ſtamina. *Fruit* beaked, ſeparating into 5 caſes, each tipped with a long ſimple naked awn.

SPEC. CHAR. Stalks ſingle-flowered. Leaves roundiſh, in 5 or 7 deeply ſeparated lobes, each of which is 3-cleft.

SYN. Geranium ſanguineum. *Linn. Sp. Pl.* 958. *Hudſ. Fl. An.* 305. *With. Bot. Arr.* 734. *Relh. Cant.* 263.

G. hæmatodes. *Raii Syn.* 360.

FREQUENT in thickets and rocky paſtures in the mountainous counties, but rare elſewhere; yet it bears the ſmoke of London better than moſt vegetables, if planted in a dry gravelly or calcareous ſoil. It is perennial, flowering moſt part of the ſummer, and making a very ornamental appearance.

Roots ſomewhat woody, producing many lax ſpreading branched leafy ſtems, often elegantly pendent from the brow of a rugged precipice, or ſcattered among ſhrubs over the broken ſtony ſoil in which this and moſt ſpecies of European Cranesbills delight. Theſe ſtems are round, jointed, a little ſwelling above and below the joints. Leaves oppoſite, deeply lobed and cut, roughiſh, their margins entire. Flower-ſtalks axillary, much longer than the leaves, bearing a ſolitary flower, furniſhed with a joint and two bracteæ, more than half way between their baſe and their apex. We have a variety from Switzerland, ſent by Mr. Davall, which has 2 flowers and 4 bracteæ from each of theſe joints.—The calyx is tipped with awns. Petals heart-ſhaped, crimſon, veiny, turning blue in decay. Seed-caſes nearly globoſe, briſtly at their ſummit; beak downy. The ſtem, flower-ſtalks, calyx and back of the leaves are clothed with white ſlender ſpreading hair; the upper ſide and margin of the leaves with ſhort depreſſ[illegible]

1246.

SPARGANIUM natans.

Floating Bur-reed.

MONŒCIA Triandria.

GEN. CHAR. Male, *Cal.* 3-leaved. *Cor.* none. *Female, Cal.* 3-leaved. *Cor.* none. *Drupa* dry, with 1 ſeed.

SPEC. CHAR. Leaves drooping, flat. Heads of flowers in a ſimple ſpike, moſt of them accompanied by leaves. Style not longer than the germen.

SYN. Sparganium natans. *Linn. Sp. Pl.* 1378. *With. Bot. Arr.* 1025. *Fl. Dan. t.* 260.
S. ſimplex, *β*. *Hudſ. Fl. An.* 401.
S. minimum. *Raii Syn.* 437.

SENT by the Rev. Mr. Hemſted from Burwell fens, Cambridgeſhire. It prefers a muddy or clay ſoil, flowering in July.

Root perennial, creeping, with long fibres, running deep into the muddy bottoms of ditches or ſlow ſtreams. Stems aſcending, round, leafy. Leaves linear, narrow, thin and almoſt pellucid, flat; ſheathing and a little channelled towards the baſe, but without any degree of *carina* or mid-rib; the lowermoſt long and floating, the reſt gradually ſhorter. Flowers from the boſoms of the upper leaves, in 3 or 4 ſolitary little round heads: we can by no means comply with Linnæus in calling them *amenta*, with the definition and nature of which they do not agree; they are really *capitula*. The loweſt is on a footſtalk. The uppermoſt only, or part of the next, conſiſts of male flowers; the reſt are female. Calyx (which might perhaps be called corolla) of 3 whitiſh leaves in each flower. Stamina twice as long, capillary. Germen ovate, very ſmooth. Style ſimple; ſtigma oblique, with a fiſſure on the upper ſide. Drupa with 1 ſeed. We find the ſtigma always ſimple, and very generally ſo (as Leers obſerves) in the common *S. erectum*. The ſhortneſs of that part in the plant before us ſeems the beſt mark of diſtinction between it and *S. erectum* and *ſimplex*, which are alſo very diſtinct from each other. Our plant agrees preciſely with Mr. Roſe's own ſpecimens gathered near Norwich, and with the original Linnæan one intended in both editions of *Sp. Plant.* It ſeems alſo to be the true plant of Ray and Dillenius. Linnæus's Lapland ſpecimen however is certainly not this, but *S. ſimplex*. His confounding them in *Fl. Succica* led Mr. Hudſon into the ſame error. We hope our elucidation of this point will be acceptable to the ſcientific botaniſt, as it could be ſettled by original ſpecimens only.

Astragalus hypoglottis.

ASTRAGALUS hypoglottis.

Purple Mountain Milkwort.

DIADELPHIA Decandria.

GEN. CHAR. *Pod* of 2 cells, ſwelling.

SPEC. CHAR. Stem proſtrate. Flowers in round heads. Pods ovate, with a channel along the back, compreſſed, hairy; tip reflexed.

SYN. Aſtragalus hypoglottis. *Linn. Mant.* 2. 274. *Sibth. Fl. Oxon.* 227.

A. arenarius. *Hudſ. Fl. An.* 323. *Relh. Cant.* 278. *Fl. Dan. t.* 614.

A. Danicus. *Retz. Obſ.* 3. 41. *With. Bot. Arr.* 787.

A. incanus parvus purpureus noſtras. *Raii Syn.* 326. *t.* 12. *f.* 3.

THIS elegant little plant abounds on our dry heaths, as in the chalky tracts of Cambridgeſhire, and on ſome elevated gravelly or ſandy ſpots of Scotland as well as England, flowering throughout June and July. By the ſynonyms above cited it appears to have been much miſunderſtood, which aroſe from Linnæus's referring Ray's figure and deſcription to his *arenarius*, and in ſuch miſtakes Mr. Hudſon often too implicitly followed him. Linnæus afterwards ſtrangely confounded it with *epiglottis*; but at length atoned for all by his excellent deſcription in the *Mantiſſa altera*, where he firſt gives it as a new ſpecies by the name of *hypoglottis*, which Dr. Sibthorp learned from the Linnæan herbarium.

Roots perennial, branched, long, ſlender and creeping. Stems zigzag, but little branched, procumbent, angular, hairy, ſet with alternate, ſpreading, pinnated leaves, of about 6 pair or more of elliptic-ovate, bluntiſh leaflets, gradually leſſening, and with a ſmaller odd terminal one; they are clothed with white cloſe hairs beneath, but nearly ſmooth above. The *Flora Danica* repreſents them oval and very ſharp, with the uſual indiſcriminative ſweeping cut of that work, ſo like the figures of Sir John Hill. Heads of flowers one or two on each ſtem, erect, axillary, ſolitary, ſcarcely longer than the leaves till after flowering. Bracteæ ovate, acute. Stalk and calyx clothed with black hairs mixed more or leſs with white ones, as in many exotic ſpecies. Corolla of a beautiful purple. Pods (which are not very well drawn by Dillenius in Ray's *Synopſis*) erect, ovate, triangular, the two outermoſt angles brought together ſo as to form a channel, the tip ſharp, curved backward, whole ſurface black and rough, clothed with long whitiſh prominent hairs. The flowers ſometimes vary to white.

Narcissus
poeticus.

NARCISSUS poeticus.

Poetic Narciſſus.

HEXANDRIA Monogynia.

GEN. CHAR. *Petals* 6, equal. *Nectary* funnel-ſhaped, of one leaf, containing the *ſtamina*.

SPEC. CHAR. Spatha ſingle-flowered. Cup of the nectary very ſhort, wheel-ſhaped, filmy, crenate. Leaves obtuſely carinated, with a reflexed margin.

SYN. Narciſſus poeticus. *Linn. Sp. Pl.* 414. *Ait. Hort. Kew. v.* 1. 408.

N. majalis. *Curt. Mag.* 193, at the end.

GATHERED by Mr. Jacob Rayer on a rabbit warren at Shorne between Gravesend and Rocheſter, in flower May 26, 1795. It is alſo found at Wood Baſtwick and in other parts of Norfolk, according to the late Mr. Roſe, who always ſtrenuouſly inſiſted upon Mr. Hudſon's having confounded two different plants under his *N. poeticus*, and that this now before us was the true Linnæan ſpecies, which laſt opinion is confirmed by the Herbarium of Linnæus. Mr. Curtis's *anguſtifolius*, Bot. Mag. t. 193, may, as far as we can judge from his account, be diſtinct from this, though mere garden ſpecies are always to be received with caution. His is the kind of *Narciſſus medio purpureus* moſt commonly noticed by old authors, and he has judiciouſly ſelected its ſynonyms, only miſtaking that of Linnæus. We have no knowledge of its being found in a wild, or even naturalized ſtate in England.

Our real *poeticus*, which, whether originally a native or not, is now perfectly naturalized in ſandy heathy places, or on many a

——" breezy hill that ſkirts the down, "

has leaves more than half an inch in breadth, with a very obtuſe keel, and ſomewhat reflexed margin. The flower is almoſt always ſolitary, large, very fragrant, pure white; the nectary bordered with orange or rather crimſon; the antheræ ſhort and roundiſh. A double variety is frequent in gardens.

470.

NARCISSUS biflorus.

Pale Narciſſus, or Primroſe peerleſs.

HEXANDRIA Monogynia.

GEN. CHAR. *Petals* 6, equal. *Nectary* funnel-ſhaped, of one leaf, containing the *ſtamina*.

SPEC. CHAR. Spatha two-flowered. Cup of the nectary very ſhort, wheel-ſhaped, filmy, crenate. Leaves acutely carinated, with an inflexed margin.

SYN. Narciſſus biflorus. *Curt. Bot. Mag. t.* 197.

N. poeticus. *Hudſ. Fl. An.* 141. *With. Bot. Arr.* 341.

N. medio luteus vulgaris. *Raii Syn.* 371.

THIS wild ſpecimen was gathered by Mr. Rayer with the preceding on a rabbit warren at Shorne. Ray ſuſpected it not to have been originally a native, but we ſee no reaſon why it ſhould not. At leaſt it is now perfectly naturalized, though perhaps not found in ſo many ſituations of undoubted wildneſs as the *poeticus*. Mr. Curtis has well aſſerted it to be a diſtinct ſpecies from that and his *anguſtifolius*, and we beg leave to add to his remarks that the leaves of the *biflorus* have an inflexed margin, not a reflexed one as in *poeticus*, and a ſection of their keel forms an angle, not a ſegment of a circle, ſo that they may properly be called *acutely carinated*, though the keel itſelf, being formed of two parallel lines, is externally flat. The nectary is bordered with white only, not red, and the *antheræ* are linear. The ſpatha bears ſometimes 3 flowers, rarely but one. The petals are buff-coloured, not pure white, and it generally flowers earlier than *N. poeticus*, though we received them both in perfection together in the end of May. The root of each is a ſolid bulb, which is emetic and dangerous. *N. biflorus* is fragrant, but the ſme if continued becomes unpleaſant.

1188.

CENTAUREA Cyanus.

Corn Blue-bottle.

SYNGENESIA Polygamia frustranea.

GEN. CHAR. *Recept.* bristly. *Seed-down* simple. *Corollæ* of the radius funnel-shaped, irregular, longer than those of the disk.

SPEC. CHAR. Scales of the calyx serrated. Leaves linear, entire; the lowermost dentated.

SYN. Centaurea Cyanus. *Linn. Sp. Pl.* 1289. *Huds. Fl. An.* 375. *With. Bot. Arr.* 944. *Relh. Cant.* 325. *Sibth. Oxon.* 260. , *Curt. Lond. fasc.* 6. *t.* 62.

Cyanus. *Raii Syn.* 198.

THIS is a common weed in corn-fields, flowering about midsummer, or later, and sufficiently obvious to every body. Its white or dark purple varieties, being of rare occurrence, are admitted into the flower garden, though really less beautiful than the natural sky-blue of the wild flower.

The root is small and annual. Stem 2 or 3 feet high, erect, harsh, angular, hollow, alternately and copiously branched, clothed with scattered lanceolate leaves, which are of a light greyish green, beneath somewhat cottony, ribbed, entire, the lower ones only being generally, though not infallibly, toothed; but the radical leaves are entire. A solitary flower terminates each branch, the scales of whose calyx are serrated with brown indentations. Corollæ of the radius bright blue; those of the disk smaller and purplish. The seeds are small and polished, with a short wing or crown.

A blue water-colour is easily prepared from the expressed juice of these flowers mixed with a little cold alum water. This blue is however reported to be not permanent. By way of experiment we have coloured with it the separate floret at the bottom of our plate, as we have already found it last several weeks, and think it may probably be durable enough if not exposed to light.

Centaurea
nigra.

CENTAUREA nigra.

Black or lesser Knapweed.

SYNGENESIA Polygamia frustranea.

GEN. CHAR. *Recept.* bristly. *Seed-down* simple. *Corollæ* of the radius funnel-shaped, irregular, longer than those of the disk.

SPEC. CHAR. Scales of the calyx oval, ciliated with upright capillary teeth. Lower leaves lyrato-angulated; upper ones ovate. Flowers without a radius.

SYN. Centaurea nigra. *Linn. Sp. Pl.* 1288. *Huds. Fl. An.* 375. *With. Bot. Arr.* 943. *Relh. Cant.* 325. *Sibth. Oxon.* 260.

Jacea nigra. *Raii Syn.* 198.
Jacea. *Hall. Hist.* No. 184.

COMMON in pastures and by road sides every where, flowering from June to the end of August. The root is strong and perennial, somewhat creeping. Stems very rigid and hard, angular, about 2 feet high. Lower leaves lanceolate, toothed, many of them cut into angular lobes so as to become lyrate; the upper ones are ovate and entire; all of them alternate, but a little clustered under the flowers, which are terminal, solitary, red, consisting of hermaphrodite florets only without any radius. Scales of the calyx very black, finely pectinated, erect. Seed without any down.

Much confusion reigns in the synonyms of this species. Mr. Hudson at first took it for the *C. Jacea* of Linnæus, but corrected himself in his 2d edition, and the Linnæan Herbarium confirms his last opinion. We think with him that Bauhin's *Jacea nigra pratensis latifolia* must certainly be the plant before us. The true Linnæan *C. Jacea*, found in Sweden, is essentially different in having the calyx-scales much paler, membranous, laciniated but not ciliated, and the flowers radiated. This should seem to be Haller's No. 185, which Hudson quotes as a variety of his *nigra*, but erroneously; for though our *nigra* may occasionally acquire a radius, it remains still truly distinct from the *Jacea* in the calyx, as well as in having much broader leaves. Dillenius seems to have been well acquainted with the two species; see his note in *Raii Syn.* 199.

Convallaria multiflora.

CONVALLARIA multiflora.

Common Solomon's-Seal.

HEXANDRIA Monogynia.

GEN. CHAR. *Cor.* 6-cleft. *Berry* spotted, 3-celled.

SPEC. CHAR. Leaves alternate, embracing the stem, which is round. Flower-stalks axillary, many-flowered.

SYN. Convallaria multiflora. *Linn. Sp. Pl.* 452. *Huds. Fl. An.* 147. *With. Bot. Arr.* 355.

Polygonatum. *Raii Syn.* 263.

A NATIVE of woods and thickets in various parts of England, though not very common. It is often met with in country gardens, and will even bear the smoke of London. It is perennial, flowering in May or early in June.

The roots are fleshy, creeping horizontally, and are said by Linnæus in *Flora Suecica* to have been sometimes made into bread. Stems annual, a foot or more in height, simple, a little curved, leafy, smooth, round. Leaves alternate, elliptical, ribbed, each of those towards the middle part of the stem bearing from their bosoms a branched flower-stalk, which sustains from 2 to 5 drooping flowers, of a whitish colour tipped with green, very slightly downy at the summit, with a faint smell of bitter almonds. Stamina short, inserted into the tube of the corolla, as we ought to have described those of *C. verticillata* (tab. 128). Style slender, as long as the tube, with a 3-cleft stigma. Berries red, but rarely produced, the plant increasing so much by root.—Children sometimes eat the unripe germen, as it has a sweetish taste like green peas.

Convallaria
Polygonatum.

Aug. 1795 Published by J. Sowerby, London.

CONVALLARIA Polygonatum.

Angular Solomon's-Seal.

HEXANDRIA Monogynia.

GEN. CHAR. *Cor.* 6-cleft. *Berry* spotted, 3-celled.

SPEC. CHAR. Leaves alternate, embracing the stem, which is angular. Flower-stalks axillary, bearing scarcely more than one flower.

SYN. Convallaria Polygonatum. *Linn. Sp. Pl.* 451. *Huds. Fl. An.* 146. *With. Bot. Arr.* 354.

Polygonatum floribus ex singulis pediculis. *Rait Syn.* 263.

SUPPOSED to be much more rare than the last described, and we believe it is so, though it may have been overlooked from its resemblance to that species. It is thought to be peculiar to mountainous situations in the north; but this specimen was gathered by Mr. J. Rayer in Kent, and Dr. Smith found it on the sandy downs of Holland near the Hague. It flowers in May or June, and is perennial.

Root and whole habit of the plant like *C. multiflora*, except that the stem is scarcely so tall. The essential differences are, that the stem of *C. Polygonatum* is angular and compressed; the flowers scarcely more than one on a flower-stalk, larger, more fragrant, with broader segments, and more remarkably bearded. The berries are said to be blue.

The root of this also has been made into bread. Our South Sea voyagers made beer of the sweet root of *Dracæna terminalis*, a plant very nearly related to these Convallarias. As they seem to abound with farinaceous matter, they might perhaps be made into starch or hair-powder when a scarcity of wheat is apprehended, for such a misfortune ought to be always guarded against in time before it is actually felt.

JUNGERMANNIA bicuspidata.

Forked Jungermannia.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male flowers sessile.

Female on a foot-stalk rising from a sheath. *Capsule* with 4 valves. *Seeds* attached to elastic filaments.

SPEC. CHAR. Fronds simply pinnated, bearing the fructification about the middle. Leaflets cloven at the tip.

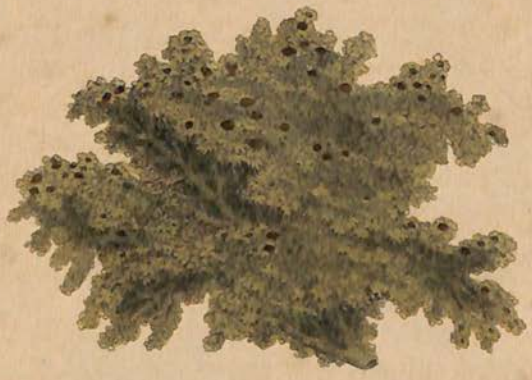
SYN. Jungermannia bicuspidata. *Linn. Sp. Pl.* 1598. *Huds. Fl. An.* 511. *With. Bot. Arr. v.* 3. 142. *Relh. Cant. Supp.* 2. 19. *Sibth. Oxon.* 310.

Lichenastrum Trichomanis facie, foliolis bifidis, minimum. *Raii Syn.* 113.

L. pinnulis acutissimè bifidis, minimum. *Dill. Musc.* 488. *t.* 70. *f.* 13.

GATHERED April 24, 1795, in Hornsey wood in full fructification, as it is not unfrequently found at that season of the year in moist shady places.

It is supposed to be perennial, forming small patches of light green procumbent leafy branches, which are either simple or divided, clothed with little roundish leaves ranged alternately in two rows, the tips of which are cloven with an acutely angulated sinus. The flower-stalks are solitary and lateral about the middle of each branch, each arising from a tubular lacerated green sheath, scaly at its base, and bearing a globose black capsule, which soon bursts into 4 valves. We have not seen the male flowers (described by Hedwig) in this nor any other species, but his fidelity is indubitable.



Stereocaulon paschale?

Nov. 1st 1805 Published by P. Sowerby London

LICHEN paschalis.

Crisp Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Shrubby, solid, clothed with minute crustaceous leaves. Tubercles terminal, prominent.

SYN. Lichen paschalis. *Linn. Sp. Pl.* 1621. *Huds. Fl. An.* 558. *With. Bot. Arr. v.* 3. 216.

Lichenoides non tubulosum cinereum ramosum, totum crustaceum. *Raii Syn.* 66.

Coralloides crispum & botryforme Alpinum. *Dill. Musc.* 114. *t.* 17. *f.* 33.

THIS rare and elegant Lichen grows on the highest mountains of Wales, Westmoreland, and Scotland, chiefly on micaceous rocks. Dr. Smith in his Tour, *vol.* 2, 113, has shown this species to be the first beginning of vegetation on lava, and, from its being generally if not always found with us in mica, presumes it to be peculiarly attached to a volcanic soil. We have been favoured with a recent specimen from which this figure was taken, by the friendship of Mr. Edward Robson of Darlington.

The root and stems are very strong and woody, the latter growing, either erect or decumbent, in thick tufts; they are very much branched, naked at the base, roundish and solid, clothed in their upper part with small, lobed, crisped leaves, of a greenish grey when wet, whitish and very fragile when dry. The tubercles are terminal, either solitary or clustered, globose, solid, entire or lobed, on short foot-stalks, brown or olive-coloured. We have represented a separate branch magnified.

Campanula Rapunculus.

CAMPANULA Rapunculus.

Rampion Bell-flower.

PENTANDRIA Monogynia.

GEN. CHAR. *Cor.* bell-shaped, closed at the bottom by valves bearing the stamina. *Stigma* 3-cleft. *Capsule* inferior, opening by lateral pores.

SPEC. CHAR. Leaves undulated; the radical ones lanceolate inclining to oval. Panicle compact.

SYN. Campanula Rapunculus. *Linn. Sp. Pl.* 232. *Huds. Fl. An.* 95. *With. Bot. Arr.* 217.
Rapunculus esculentus. *Raii Syn.* 277.

A NATIVE of banks and borders of fields in some parts of England, more particularly Surrey and Kent. It is an old kitchen-garden vegetable, the root having been formerly eaten either raw in sallads or boiled. When recent it is the size and shape of a radish, but white, milky, sweetish with some pungency and bitterness. It is now out of use.

Root biennial. Stem erect, angular, rough (especially on the angles) with deflexed white hairs, the upper part being less rough, panicled and sometimes branched. Leaves roughish, undulated and toothed; the lowest somewhat elliptical, the others lanceolate; the floral leaves very narrow. Panicle compact, upright, its side branches bearing from one to three or more flowers. Germen in our specimen smooth, in those of Linnæus hairy, the hairs often inflated and becoming globular; teeth of the calyx very long and taper, generally entire, but sometimes bearing one small tooth on each side near the base, though they are by no means so denticulated as in *C. patula* (tab. 42), neither is the corolla taper at the base, as in that species, but inflated. The flowers appear in July and August.

Spiræa Filipendula.

SPIRÆA Filipendula.

Common Dropwort.

ICOSANDRIA Pentagynia.

GEN. CHAR. *Cal.* 5-cleft. *Petals* 5. *Capsules* with many seeds.

SPEC. CHAR. Leaves interruptedly pinnated; leaflets uniform, serrated. Stem herbaceous. Flowers cymose, with many styles.

SYN. Spiræa Filipendula. *Linn. Sp. Pl.* 702. *Huds. Fl. An.* 217. *With. Bot. Arr.* 518. *Relh. Cant.* 191. *Sibth. Oxon.* 157.

Filipendula. *Raii Syn.* 259.

IN mountainous pastures on a calcareous soil, especially in Cambridgeshire, Worcestershire, and Surrey, plentiful enough wherever it occurs at all. In Mr. Lock's park near Leatherhead this elegant plant grows abundantly, flowering early in July.

The very extraordinary perennial root consists of oval solid lumps hanging by threads from the main body, which lumps, being reservoirs of nourishment, enable the herb to resist drought, and render it besides very difficult to be eradicated. Stem erect, about a foot high, with a few alternate smooth leaves, which are a fine example of the *folium interruptè pinnatum*, consisting of one set of larger leaflets, with intermediate smaller ones; all of them are serrated and jagged, and all the leaflets of each set are uniform, or nearly corresponding in size. A pair of roundish united indented stipulæ, at the base of each compound leaf, embrace the stem. Flowers in a cymose loose panicle, cream-coloured, often tipped with red in a wild state. The styles in this and *S. Ulmaria* are numerous; so that a young student would be puzzled to find our only 2 species of *Spiræa* in the order *Pentagynia*, to which however the genus is very rightly referred by Linnæus, most of the other numerous species (if not all) having but 5 styles. These irregular species ought always to be enumerated at the end of the order or class to which they individually belong, as Linnæus generally practised.

In a garden soil this plant grows very luxuriant, and has often double flowers. The whole herb is astringent.

Beta maritima.

BETA maritima.

Sea Beet.

PENTANDRIA Digynia.

GEN. CHAR. *Calyx* 5-leaved. *Cor.* none. *Seed* kidney-shaped, within the substance of the base of the calyx.

SPEC. CHAR. Stems procumbent. Flowers in pairs. Calyx entire.

SYN. Beta maritima. *Linn. Sp. Pl.* 322. *Huds. Fl. An.* 108. *With. Bot. Arr.* 257.

B. sylvestris maritima. *Raii Syn.* 157.

A NATIVE of the sea shore in several parts of England, more especially in muddy places. Dr. Smith found it by the river side just below Lynn, with *Atriplex pedunculata* and other rarities. The specimen here delineated was gathered near Scarborough by Mr. William Travis, and we are the more obliged to this gentleman for his communication, as there is no figure of *B. maritima* extant.

Root, according to Ray, perennial, by which he says it differs from the garden Beets; its substance thick and fleshy. Stems several, prostrate, a circumstance which the form of our page would not allow of being duly expressed in the plate. Leaves succulent, the edge waved but entire, decurrent into the foot-stalk; the radical ones numerous and larger; those on the stem all turned upwards from the ground, and bearing in their *axillæ* clusters of small leaves and flowers. The stem terminates in a more or less compound leafy spike, bearing the flowers either in pairs or solitary, never many together, by which circumstance, added to its prostrate stem and consequently vertical stem-leaves, and the keel of the calyx-leaves being entire, not toothed as in *B. vulgaris*, this species is with certainty distinguished, according to Linnæus, who cultivated it in his garden, and remarks that it flowered the first year. He thought it an annual. With us it appears to be perennial, flowering in August and September. The stigmas are very frequently three in number.

Leonurus Cardiaca.

Nov.^r 1793. Publish.^d by J.^s Sowerby, London.

LEONURUS Cardiaca.

Motherwort.

DIDYNAMIA Gymnospermia.

GEN. CAHR. *Calyx* 5-angled. *Antheræ* sprinkled with shining dots. *Upper lip* of the *corolla* shaggy, concave.

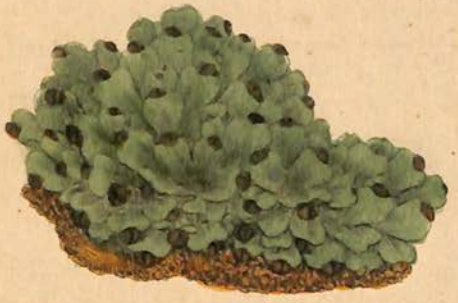
SPEC. CHAR. Stem-leaves lanceolate, 3-lobed.

SYN. Leonurus Cardiaca. *Linn. Sp. Pl.* 817. *Huds. Fl. An.* 261. *With. Bot. Arr.* 618. *Relh. Cant.* 232.

Cardiaca. *Raii Syn.* 239. *Ger. em.* 705.

ITS proper situation is on banks and under hedges in a gravelly or calcareous soil, not on dunghills, except by accident, as Mr. Woodward remarks. It occurs here and there in Norfolk and Suffolk. Mr. Lightfoot found it in Monmouthshire. Our specimen grew in a lane near Combe wood, Surrey.

The root is at least biennial, according to Mr. Relhan perennial. Stem upright, 2 or 3 feet hight, quadrangular and furrowed, often purplish, the angles downy. The greater part of the leaves are lanceolate and acutely three-lobed, with some notches besides; but the uppermost are undivided, and the lowermost very much and obtusely lobed and broad, something like those of the gooseberry. Whorls of flowers numerous. Calyx with 5 sharp spreading teeth. Corolla whitish externally, elegantly stained with paler and darker purple within. Antheræ, before they burst, sprinkled with white globular points, by which this genus is chiefly distinguished from *Phlomis*, if such a character be sufficient. The herb is bitter and tonic, with no very pleasant though pungent smell.



Targionia hypophylla

Mint. 1798. Hedwigia ex Herb. Lindenb.

TARGIONIA hypophylla.

Dotted Targionia.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Cal.* of 2 concave valves. *Seeds* very numerous, collected into a globe.

SPEC. CHAR. . . . . .

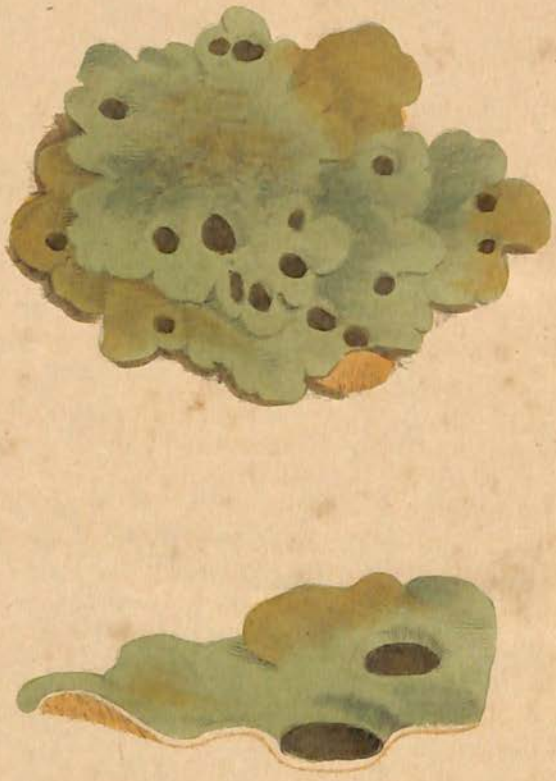
SYN. Targionia hypophylla. *Linn. Sp. Pl.* 1603. *Huds. Fl. An.* 519. *With. Bot. Arr. v.* 3. 157. *Lightf. Scot.* 792.

Lichenastrum capitulo oroboide. *Raii Syn.* 110.

Lichen petræus minimus, fructu Orobi. *Dill. Musc.* 532. *t.* 78. *f.* 9.

VERY few botanists have gathered this plant in Britain, insomuch that several of the most accurate have doubted whether some Marchantia or Jungermannia had not been mistaken for it. We are enabled to decide this point by means of wild specimens gathered by the Rev. Mr. Kirby, on a bank near Nayland in Suffolk. Hudson found it in Devonshire, a part of the island where it is most to be expected, considering its frequency on rocks and banks in the south of Europe, see Smith's Tour.

The fronds are obcordate, growing somewhat imbricated in thick tufts, attached by dense fibrous roots, and spreading very wide in a circular form. In hot or dry weather their margins are curled in, showing the black under side, when the whole plant seems to be withered; but in moisture they recover their verdure, and are of a deep shining green, sprinkled with whitish projecting points, and marked with a slight longitudinal furrow, which Micheli's figure expresses, but which Dillenius (fond of indulging his spleen towards that excellent author) pretends he could not perceive. On the under side of the frond in its terminal notch stands a solitary fructification, consisting of two blackish concave equal valves, enclosing a ball the size of a small vetch seed, which consists of a fine skin investing innumerable powdery seeds like those of a *Lycoperdon*, in their ripe state dark brown, but yellow when younger, and before they arrive at maturity enveloped in a fluid. We know nothing of the flower or mode of impregnation, but the genus is certainly distinct enough from *Jungermannia* and *Marchantia*, and we think also from *Sphærocarpus*. See Withering.



Solorina saccata

LICHEN saccatus.

Socket Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Coriaceous, creeping in a somewhat circular form. Shields sunk into deep pits in the leaf, projecting on the under side.

SYN. Lichen saccatus. *Linn. Sp. Pl.* 1616. *Huds. Fl. An.* 548. *With. Bot. Arr. v.* 3. 205. *Lightf. Scot.* 855.

Lichenoides Lichenis facie, peltis acetabulis immersis. *Dill. Musc.* 221. *t.* 30. *f.* 121.

THE native place of growth of this Lichen is (as Mr. Lightfoot well expresses it) "upon the earth in the chasms of rocks that are damp and shady." In such situations Dr. Smith found it in the north west part of Yorkshire, and near Matlock just above the road from the old bath-house to the temple. We have also received it from the Rev. Mr. Davies and the Rev. Mr. Relhan, two most accurate investigators of Cryptogamous plants.

The fronds spread circularly, a little imbricated; their texture is leathery, but tender when wet; upper surface smooth, of a fine grass green turning brown in decay, the under side white and downy. Shields deeply immersed in sockets or pouches of the frond in a very peculiar manner, for which this curious species is remarkable; they are a little concave, blackish, without any margin, but covered when young with a fine skin which cracks in the centre.

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